March 1981

Smithsonian

Miming clowns frolic
t North Carolina's
chool of Arts (p. 54)

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Smithsonian

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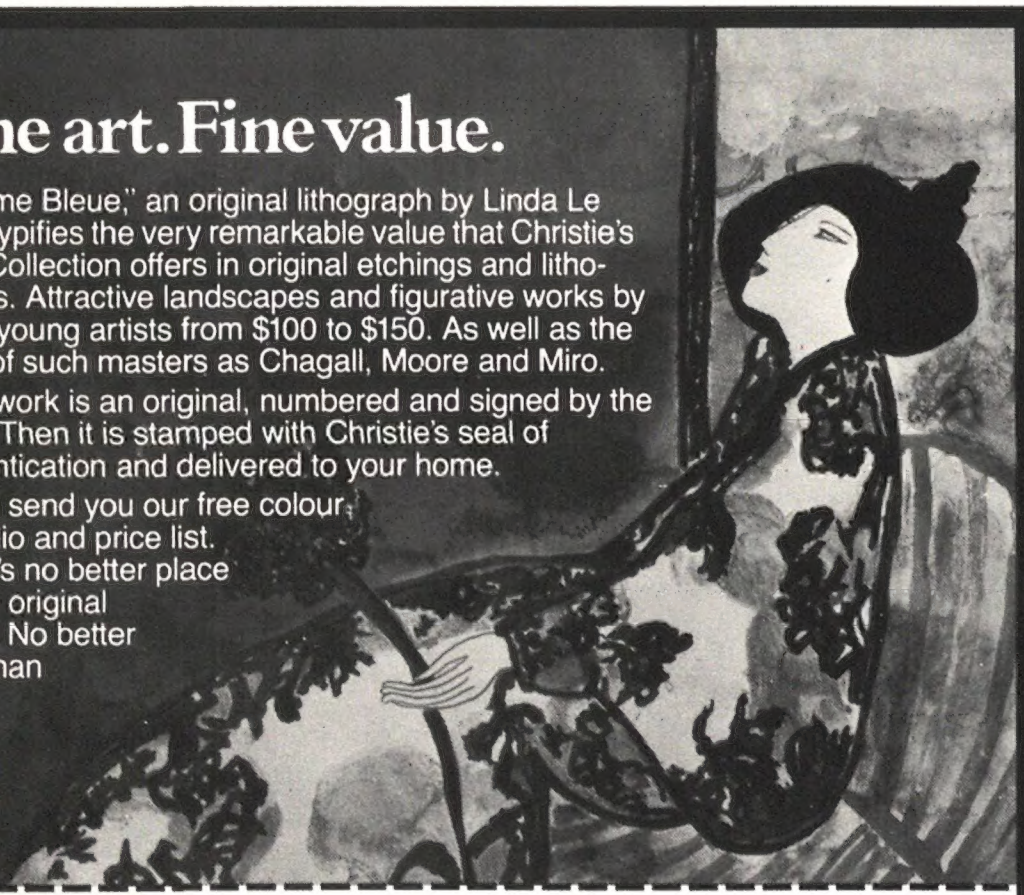

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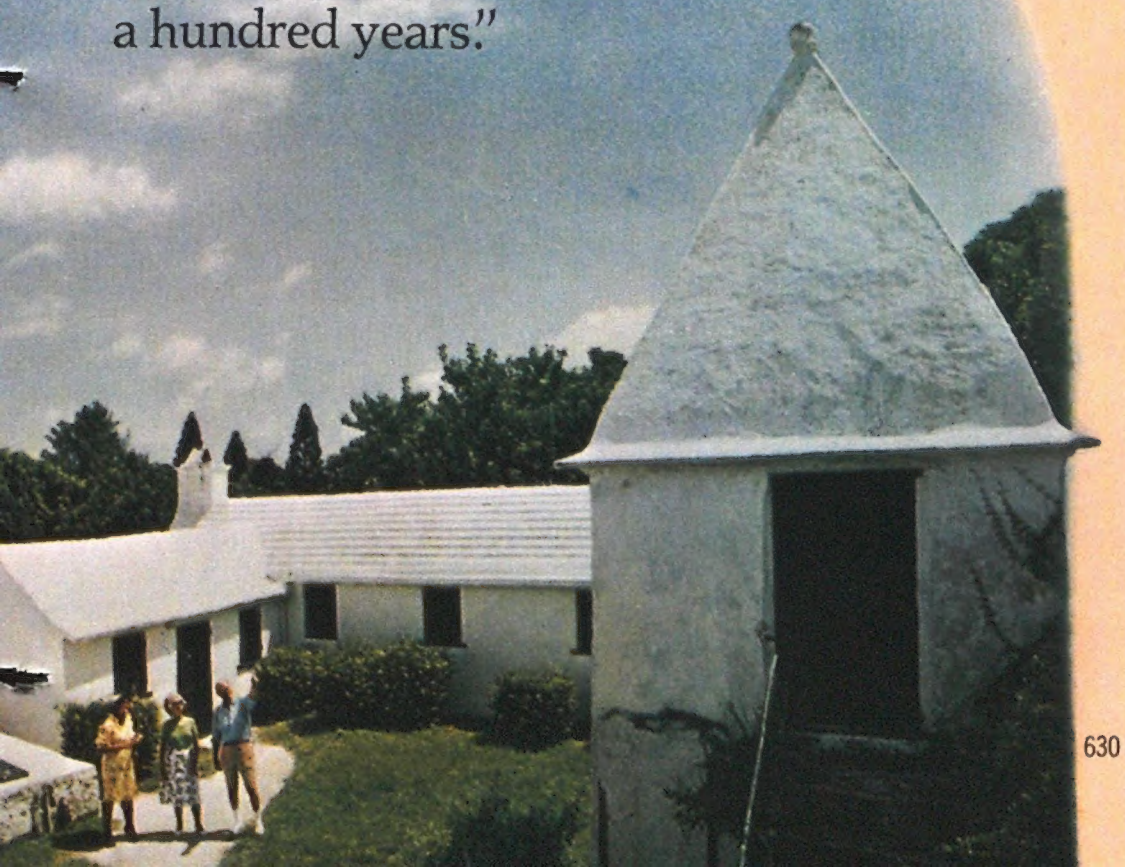

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Secretary Ripley's comments

The view from the castle

After many years of effort, one of the last mysteries about North American geese has been solved

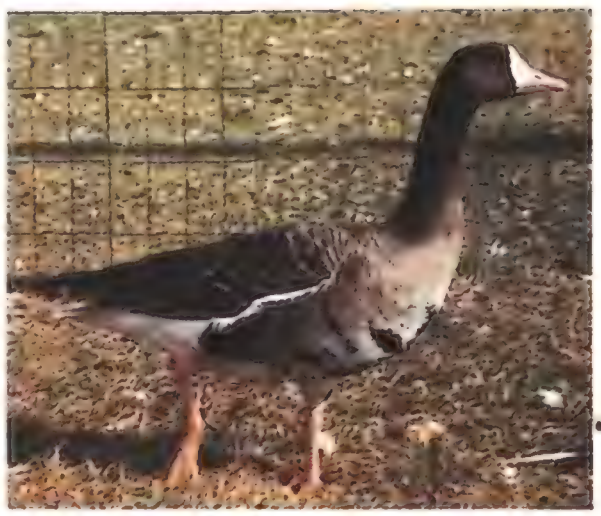
In the May 1979 SMITHSONIAN I described a little-known population of a white-fronted goose of the far West, *Anser albifrons elgasi* as it is known to science, of which perhaps some 1,500 individuals exist. They winter in very small family parties in the Sacramento Valley in California, where I have picked them out through my binoculars, on the edges of huge groups of the slightly smaller common American whitefront.

For many years the late James Moffitt, Jean Delacour and I had joined with some aviculturists—notably Bob Elgas of Montana, Jack Kiracofe, and other authorities on rearing geese in captivity—in the feeling that these big, dark birds with reclusive habits, and a gruffer, more sonorous yelping call, represented a separate population. Wintering west of the Sierras, they probably migrated somewhere to the north, into Alaska, on a different flight route from that of any of the better-known whitefronts. But no one knew where *elgasi*, sometimes called the tule goose because of its habit of staying near rush-bordered ponds, nested in spring. It was one of the last mysteries about North American bird fauna.

We have a pair of these intriguing whitefronts on our farm in Connecticut, and often, watching them cock their heads toward the sky, I would speculate where they might fly off to if they had their way. Meanwhile, Bob Elgas and his friends never let up. For ten years, in collaboration with the U.S. Fish and Wildlife Service, working from the Sacramento National Wildlife Refuge, Elgas and Warren Hancock tried trapping and banding these big whitefronts, fixing radio transmitters to their bodies in some cases, in hopes of learning the answer to their secret. If they flew north to nest without crossing the ranges, then the answer must be somewhere in coastal Alaska, but no news came back.

In 1978 one of his fellow aviculturists, Jack Kiracofe, sent Elgas photographs of some geese in Alaska which suggested the mysterious population that Delacour and I had described for science in 1975 as *elgasi*, in our friend Bob's honor. Acting on that hint, Elgas and Hancock flew to Alaska while awaiting permits to test their hypothesis and capture a few young birds (to grow up in time on Elgas' farm in Montana and prove the point). On July 3, 1979, they easily photographed adults, some birds molting their flight feathers and so temporarily grounded, along with downy young. These were the Sacramento birds, nesting around the mouth of a river in the Redoubt Bay area on the north shore of Cook Inlet, hundreds of miles from the range of the commoner whitefronts.

Later that same month they returned with an official of the Alaska Fish and Game Department, permit in hand, and secured ten young birds to take home to Elgas' farm. Curiously enough, the isolated nesting ground is within 70 miles of the city of Anchorage, but no one had previously confirmed the identity of this small handful of geese. So often in ornithology birds near cities may be overlooked or misidentified, while field research entices the scientist into what he thinks are the greater rewards of the farthest bush or jungle.



Anser albifrons elgasi at home on Montana farm of its namesake.

In any case, patience was rewarded, and we can only hope that the singleness of purpose of Bob Elgas and his band of passionate aviculturist friends will be recognized by our state and federal representatives, wardens of our diminishing wildlife. Like conservation itself, knowledge of the ways of wild things can only be achieved through a partnership of the dedicated few who really care and organizations created by our government in the name of all the people.

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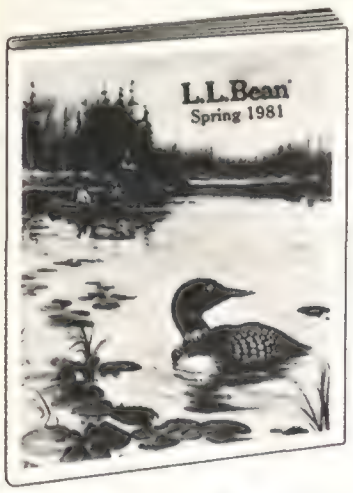

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Letters to the Editor

Mummers

Dear Sir: Congratulations to John Francis Marion for his splendid article, "On New Year's Day in Philadelphia, Mummer's the word," in your January issue.

If your readers wish to learn more about these "pied pipers" who have enticed tourists from across the nation and the world to our great city, we invite them to visit our Mummers Museum at 2nd Street and Washington Avenue.
George E. Lisiecki, Executive Director
Mummers Museum
Philadelphia

Dear Sir: I have one quarrel with your excellent article: the marcher you described as a "knight" in shining armor is really dressed as C3PO, the protocol android of *Star Wars* and *The Empire Strikes Back*. The identifying full-face mask is tilted back on his head—the man is probably just trying to catch his breath.
Lorinda Kasten-Lowerre
Jedi Knights of Orange County (a *Star Wars*-based science-fiction social club)
Westminster, California

Dear Sir: The date that Charles II granted the charter for Pennsylvania to William Penn is 1681, but the founding of Philadelphia took place in 1682—it is celebrating its 300th anniversary next year.
Willa D. Littlefield
New York City
The date used by city officials is the last week of October 1682, when William Penn arrived in the Colony and gave the name Philadelphia to the city area. This anniversary will be celebrated next year, from March through October. Ed.

Dear Sir: Your Mummer story was a warm surprise to a native Philadelphian, marooned for 60 years in Gotham. During my boyhood in Philly most of the Mummers clubs were headquartered in South Philadelphia. That probably was because the parades started on South Broad Street and marched north, and this course has been followed ever since.
Joseph B. Milgram
Brooklyn, New York

Moshe Feldenkrais

Dear Sir: Albert Rosenfeld's article, "Teaching the body how to program the brain is Moshe's 'miracle,' " indicates that Feldenkrais' pupils work throughout the United States. It would be a great service to have the address where Moshe Feldenkrais can be contacted for his help.
Scott L. Holmes
Smithton, Pennsylvania
For Mr. Holmes and the many other readers who inquired, the address is: The Feldenkrais Guild, 1776 Union Street, San Francisco 94123, (415) 776-8708. Readers will be able to get the names of practitioners in their areas. Ed.

Coral reef

Dear Sir: Your article on the Smithsonian's living coral reef has some beautiful photographs, especially the *Spirobranchus giganteus* on the cover. I would like to know its size and also that of the common sea urchin, *Diadema antillarum*.
Sophie E. Szopa
Groton, Connecticut
The Spirobranchus giganteus *is about four inches long; the* Diadema antillarum, *with spines, some six to eight inches.* Ed.

Australia's platypus

Dear Sir: Janet Hopson's fine article on platypuses reminds me of a time in the late 1940s when I had a brief encounter with three of these strange little beasts. As a member of the working press in Panama, I went aboard the ship on which the trio was being transported from Australia to the Bronx Zoo in New York.

On board was a case which, for all the world, looked like the kind dentists use to keep their instruments. But this one, we were told, held 10,000 earthworms for the picky-eater platypuses.

The reporters, including my junior

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high school son who had wangled a press pass to represent his school paper, went aboard in small groups. On the afterdeck was a "platypusary," a carefully constructed structure duplicating as nearly as possible the burrows in which "Betty Hutton," "Penelope" and "Cecil" were accustomed to living.

We were permitted to feed earthworms to the little animals, a process my son enjoyed more than I. He said Penelope nudged his hand with her rubbery nose. Some time later, when we visited the Bronx Zoo, David vowed that Penelope recognized him. We doubted it.

Eleanor H. McIlhenny
Shaker Heights, Ohio

Dear Sir: All the epithets Janet Hopson claps on the platypus—strange, queer, skittish, a hodgepodge, a jumble, in short "the most unusual mammal on Earth"—would have pleased Mark Twain.

During the bankrupt humorist's lecture tour of Australia in 1895-96, audiences complained that his selections were mostly from familiar printed works. Under criticism, he strove for topicality, as I discovered in my research for an article on Twain's tour. Discarding the kangaroo, the emu and the dingo, he lighted on the platypus—and brought forth gobbets of verse:

> Come forth from thy cozy couch,
> Oh ornithorhynchus dear,
> And greet with a cordial cheer
> The stranger that longs to hear
> From thy own lips the "tail"
> of thy origin all unknown,
> Thy misplaced bone where flesh should be, and flesh where should be bone.
>
> And fishy fin where should be paw,
> And beaver trowel tail
> And snout, oh beast equipped wi' teeth
> Where claws ought to prevail.

While readers and journalists may have been amused, according to an Australian newspaper of the day Mark Twain had some misgivings: "You see, I have got that animal wrong. He has got a beaver troweled tail, but it is on the other end of him. I cannot help that. The animal [must be] made to fit. The creature has no teeth, but I cannot help that. I have got to rhyme, and [it] has got to have teeth, if it is only a false set. That animal must do his share. . . . I cannot arrange the poetry and the animal too.

Coleman O. Parsons
New York City

Sky phenomena

Dear Sir: Alistair Fraser's description of the dazzling festivals to be seen in the sky reminded me of *Gegenschein*, which apparently is outside the scope of his article. It is the luminous band in the night sky in the region of the Zodiac, directly opposite the sun.

The word is German, and it means counterglow. The best observing times are February, March, April and August, September, October. I have seen it many times and have impressed girl friends with my learning—probably the best use for *Gegenschein*.

Frank Cole, M.D.
Lincoln, Nebraska

Dear Sir: I would like to ask the author of the "dazzling festival of light" article if anyone has ever reported a black rainbow. I saw one several years ago, just as I topped a range of hills and looked down into the valley below me. A rain squall, so typical of California in February, was drenching the valley. Just at that moment the clouds behind me broke to unveil a full moon and before me over the valley arched a rainbow in shades of gray and black. What a temptation a black rainbow would be for soothsayers!

Gordon L. Deegan
San Carlos, California

Author Alistair B. Fraser says the moon can create a rainbow as readily as the sun. Although the reader describes it as a "black" rainbow, it did contain colors—but at low light intensity the eye does not detect them. Ed.

Churches

Dear Sir: Here's a cheerful note to add to Jill Jonnes' moving account of the dying churches in the inner cities.

Readers concerned about the loss of old St. Mary's in Boston will be consoled to know that the fine pipe organ housed in it for its century of life was rescued from demolition by the School Sisters of Notre Dame. It was carefully dismantled, loaded onto two semitrailer trucks and moved to Mankato, Minnesota, where the Sisters now have it in the chapel of Our Lady of Good Counsel. But not before they had given a couple of years of devotional love and plain old elbow grease cleaning it. They now know what a jewel of an instrument it is. Minnesota

The Fleetwood Collection announces
a very special opportunity
for you to acquire

The Pandas of Wu Zuoren

An exclusive series
of six fine porcelain plates
with original art by
the honorary President of
China's Central Academy
of Fine Arts

Strictly limited edition of 5000
Individually hand-numbered sets
Advance Reservation Deadline: April 30, 1981
Limit: 1 Set per Collector

Plate shown smaller than actual size of 8½ inches in diameter.

In recent years, the Western world has had little opportunity to enjoy the remarkable works of China's greatest living artists.

But now, all that is changing — and you are among the first to be able to acquire original works by Wu Zuoren, one of the most renowned and masterful artists in all of China.

Today, The Fleetwood Collection is pleased to bring you a unique opportunity to start your own prized plate collection — or add to your existing one — with six fine porcelain plates bearing the exquisite *Pandas of Wu Zuoren.*

The subject and the artist make this series a milestone for plate collectors.

Wu Zuoren's classic style and extraordinary perception have made him China's foremost artist and gained him international recognition. His delicate approach to the painting of the Giant Pandas embodies the greatest traditions of Chinese art.

Before he begins to paint, he studies his subject intensely, creating mental images of his finished work. Only when the composition is fully conceived in his mind does he begin to paint — quickly, spontaneously, never changing a single stroke.

The result is the magical liveliness and vitality you can see in *The Pandas of Wu Zuoren* as they nibble tender bamboo . . . cuddle their young . . . scramble over the rocks of their mountainous habitat.

A TRULY LIMITED EDITION

The issuance of *The Pandas of Wu Zuoren* is an important event — one which no astute collector will want to miss.

Significantly, it is a collection which will be issued in *one* small, genuinely limited edition of just 5000 matched sets of individually hand-numbered plates. *The Pandas of Wu Zuoren* are available *exclusively* from The Fleetwood Collection.

FINEST QUALITY, MODESTLY PRICED AND CONVENIENT TO ACQUIRE

Your collection of *The Pandas of Wu Zuoren* will be made of purest white porcelain. Eight and one-half inches in diameter, each plate will bear a hand-applied band of *precious platinum* and be accompanied by a certificate of authenticity. Every plate in your series will bear the same number.

The original issue price for the entire collection is only $39 per plate — modest for a collectors' plate issued in such a small edition. Shipping, handling, insurance and special packaging are included in this price. You need send only $19.50 now. With shipment of your first plate, you will be billed for the balance of $19.50. Thereafter, you will receive one plate every other month and will be billed in two equal monthly installments of $19.50. And by using your credit card account, you need send no money now.

ORDER NOW AND RECEIVE PLATE HOLDERS AT NO ADDITIONAL COST

If you order now, we will include an unbreakable clear Lexan® holder with each Plate, so you can proudly display your collection on shelf or wall. Virtually invisible, yet sturdy and secure, these holders are sold separately for $3.95 each, but *can be yours at no additional cost if you mail your order promptly.*

To be sure of reserving the matchless *Pandas of Wu Zuoren* for your personal collection, you must fill out and mail the Advance Reservation Application immediately. Later announcements might be made, but once the limit of 5000 collections is reached, the edition will be closed forever.

Make certain your application arrives before the edition is closed. Send it today to: Fleetwood, One Unicover Center, Cheyenne, Wyoming 82008-0001.

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ADVANCE RESERVATION APPLICATION

The Pandas of Wu Zuoren

Reservation Deadline: April 30, 1981
Limit: 1 Set per Collector

The Fleetwood Collection **C2**
Cheyenne, Wyoming 82008-0001

Please accept my reservation for *The Pandas of Wu Zuoren,* a series of six fine porcelain plates with original art by Chinese master Wu Zuoren. I will be sent one plate every other month beginning in May, 1981, at a cost of $39 per plate (shipping, handling, insurance and special presentation packaging included). I may promptly return any plate I am not satisfied with for refund or replacement. I prefer to make convenient monthly payments as follows:

☐ DIRECTLY. Please bill me for each plate in two equal monthly installments of $19.50 each ($39 per plate). I enclose $19.50 for the first payment now.

☐ BY CREDIT CARD. Please charge my credit card indicated below in two equal monthly installments of $19.50 for each plate. Charge the first payment as each plate is shipped, and the second payment one month later.

☐ MasterCard ☐ American Express
☐ Visa ☐ Diners Club

Card No. _____ Expires _____

Signature _____
All applications must be signed and are subject to acceptance by Fleetwood.

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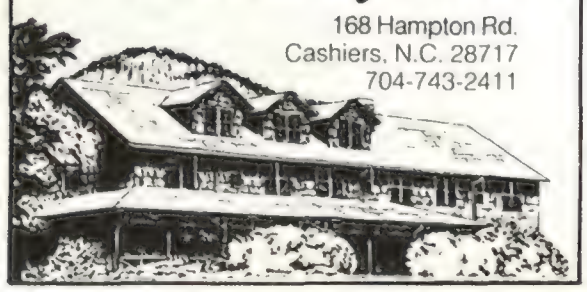

Public Radio has made statewide FM broadcasts available for concerts and recitals featuring organists eager to have a chance to perform on it.
George A. Wick
Sibley, Iowa

Dear Sir: Some 20 years ago our parish church, St. Peter the Apostle, in Pittsburgh, was demolished under the guise of progress [see below].

The parishioners were convinced that the movement to destroy their beloved church was a step in the direction of a Godless nation.

They undertook a defense of their church through the media, the courts and in appeals to their religious leaders. Although they failed, we should take note of what they attempted and meditate on the words of a jurist in that long-drawn-out court case: "I cannot understand the spirit of our time which so often places on values the material above the spiritual"—Justice John C. Bell, Pennsylvania Supreme Court.
Michael Greco
Riverdale, New York

St. Peter's, after a two-year legal battle, loses to wrecker's ball.

Book reviews

Dear Sir: I read the January issue of SMITHSONIAN in the waiting room of the hospital where my husband was confined following a heart attack. I was surrounded by patients' relatives, most of whom were complaining about food, no smoking, nurses and, of course, "those doctors." The situation was very pertinent to the book review, *The Bitter Pill* by Martin R. Lipp, M.D. What a thoughtful review of a bitter book about a disappointed man! How well the reviewer knew the joys and satisfactions that come a doctor's way. How inspiring to read of a man, who tries again and again to come to grips with what is essentially the patient's human nature. And then my eyes landed on the reviewer's name—Michael Halberstam, M.D. And I cried for my husband, myself, for all of us for the loss we had suffered. I had read, and admired, his book and articles, but the circumstances under which I read the review made his death unbearably distressing.

I realize that this issue had probably gone to press before Dr. Halberstam was shot by an intruder in his Washington home, but I thought you might want to call the review to the attention of readers who may have missed it.
Rose Lowenstein
Los Angeles

Phenomena, comment and notes

Dear Sir: After reading Richard L. Williams' article on Mt. St. Helens, we decided to build a bluebird box according to your specifications: 200 billion board feet of lumber equals a billion bluebird boxes. Not having the time to build a billion, we built just one. Now finished, it stands in the backyard. But we can't seem to attract any bluebirds to it—no matter, our Volkswagen loves it!
Elizabeth Murphy and *Paul Kenyon*
Old Saybrook, Connecticut
It seems that our figures took wings. Estimates of the damage—far from being 200 billion—vary from one to four billion board feet. Ed.

A few words in behalf of fewer . . .

Dear Sir: In consideration of Patrick Ryan's plea for brevity in communications, I am limiting my comments merely to Loel Barr's illustration. The "pencils" in the glass jar beside the "Underword" typewriter appear to have erasers at *both* ends—presumably to eliminate all unnecessary words.
Eleanor K. Wodey
Norwalk, Connecticut

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The RESOLUTE. Vermont Castings' smallest dual-fuel stove is ideally sized to insert into most fireplace openings, place on a smaller hearth, or install as a free-standing unit.

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Each model offers every feature knowledgeable stove enthusiasts demand. Vermont Castings stoves make use of sophisticated baffling systems to provide extremely long flamepaths, minimizing flue heat loss. Pre-heated air passages and true secondary combustion chambers maximize heat and fuel economy.

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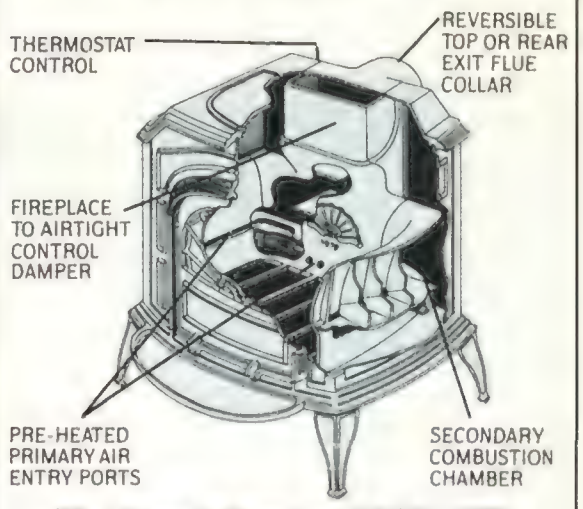
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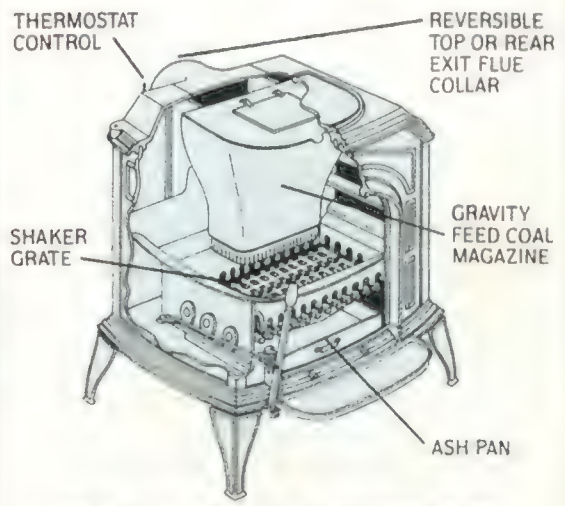

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The Woodland Year

by Peter Barrett

Fawns in the June Meadow

© 1981 FP

Plates shown smaller than actual size of 9⅛" diameter.

The changing seasons . . . and the delightful creatures of the forests. Portrayed in a collection of twelve charming collector's plates . . . one for each month of the woodland year.

Limited Signature Edition. Advance Subscription Deadline: March 31, 1981

The beauty and grace of a young deer frolicking in the summer meadow . . . the delight of a baby raccoon being startled by a tiny green frog . . . the charm of two chipmunks sharing their food with a little bird . . . such scenes from nature have a very special fascination for us all. To be able to capture these qualities in visual form is a unique gift – and the renowned English painter Peter Barrett has that rare gift in abundance.

Because Barrett is a trained naturalist as well as an artist, he is able to portray in his work not only the personality of nature's most captivating creatures – but also their distinctive features in realistic detail.

This distinguished wildlife artist will now undertake a uniquely challenging assignment. He will create a series of new works of art *exclusively* for a collection of twelve porcelain plates – plates that will depict woodland animals at play throughout the twelve months of the year.

Each of these works by Peter Barrett will be created for "The Woodland Year" porcelain plate collection, to be issued by Franklin Porcelain. And the first edition of this collection will be a special, limited "Signature Edition."

Each plate portrays a different animal . . . during a different month of the year

To capture the beauty of these woodland

The Friendly Chipmunks in August

scenes, Peter Barrett will depict each animal in a different natural setting . . . and during a different month of the year. And

Squirreling for Nuts in January

each delightful animal – the raccoon for April, the deer for June, the badger for October – symbolizes especially well that particular time of the year.

The January plate, for example, portrays two Grey Squirrels digging up acorns on a snowy winter's day. The May plate depicts a baby fox startled by the sudden appearance of a butterfly in the tall grass. The November plate shows an American Marten perched in a pine branch – a moment after he has mischievously disturbed a Red-Breasted Crossbill . . .

Every one of the twelve plates that make up the collection has a charm about it that is irresistible. Because no detail, no matter how small or subtle, escapes the eye of Peter Barrett.

A unique way to depict nature's most delightful creatures

Consummate artist that he is, Peter Barrett is always seeking ways to make his art different and original. And here he has found a most ingenious one. He has portrayed each scene as though it were being viewed secretly, without the animals knowing you were there. Thus, as you look at the plate, you have the illusion of having peered through an opening in the forest – and suddenly come upon this delightful scene! It's a technique which Barrett uses in the most winning manner . . . and each of the twelve works of art, therefore, becomes a new and pleasant surprise.

In order to capture the art of Peter Barrett in the most appealing manner, each plate will measure 9⅛ inches in diameter. Moreover, each of these lovely woodland plates will be decorated with a border of *pure 24 karat gold.* Franklin Porcelain has entrusted the creation of the plates for this distinguished collection to its affiliate, Franklin Porcelain of Japan.

Signature Edition available for a limited time

The Signature Edition of "The Woodland Year" by Peter Barrett will be distinctive because it is the *only* edition of this collection that will bear the signature of the artist on each plate.

In the tradition of fine porcelain, the plates in this desirable Signature Edition will be issued *only* during a single year – and will never be made available again. Thus, the total number of sets to be issued in the Signature Edition will be forever limited to the exact number of original subscriptions entered by the end of 1981, plus one set for the artist and one for the archives of Franklin Porcelain.

The collection of twelve plates will be sent to subscribers at the rate of one every *other* month, and the issue price for each plate is just $55, payable in two convenient

The Butterfly Chase in May

monthly installments of $27.50 each. This price is *guaranteed* to subscribers for each of the twelve plates in the collection, regardless of any rise in costs during the entire subscription period.

To enter your subscription for the Signature Edition of "The Woodland Year" – and begin to build one of the most beautiful collections in fine porcelain – mail your application to Franklin Porcelain, Franklin Center, Pa. 19091, by March 31, 1981.

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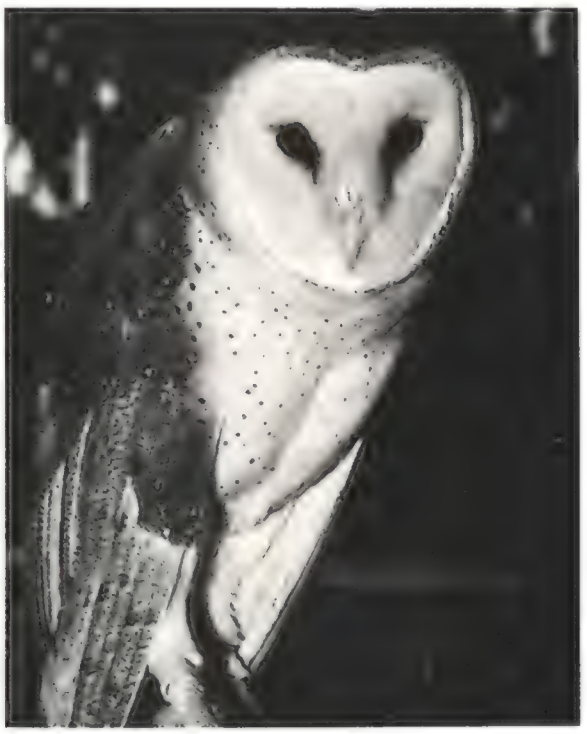
Around the Mall and beyond

Last December, on a bitter afternoon just before the holidays, I was recruited by the Audubon Society to help see a barn owl. The annual Christmas Count, at least for the District of Columbia "Circle," is generally so cold that it makes your eyeballs shiver, so people go in groups to help see birds.

I joined three Smithsonian birders and a man from the General Services Administration, and we went to the old Washington Navy Yard to help see this particular bird, which the GSA man had thought he'd seen all alone a few days before. It's not the same owl that perches below, but it's just like it. And in the official report for 1980 of the Capitol Hill area of the District of Columbia count, you Audubon types will find—along with 700 pigeons and an estimated 2,800 starlings



Barn owl waits to be seen.

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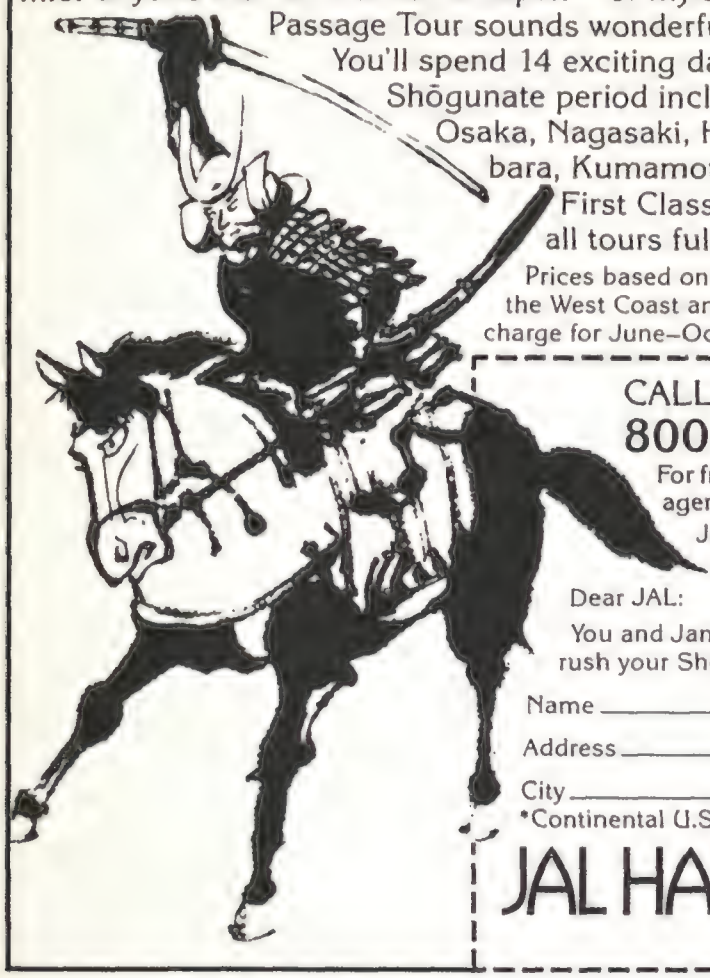

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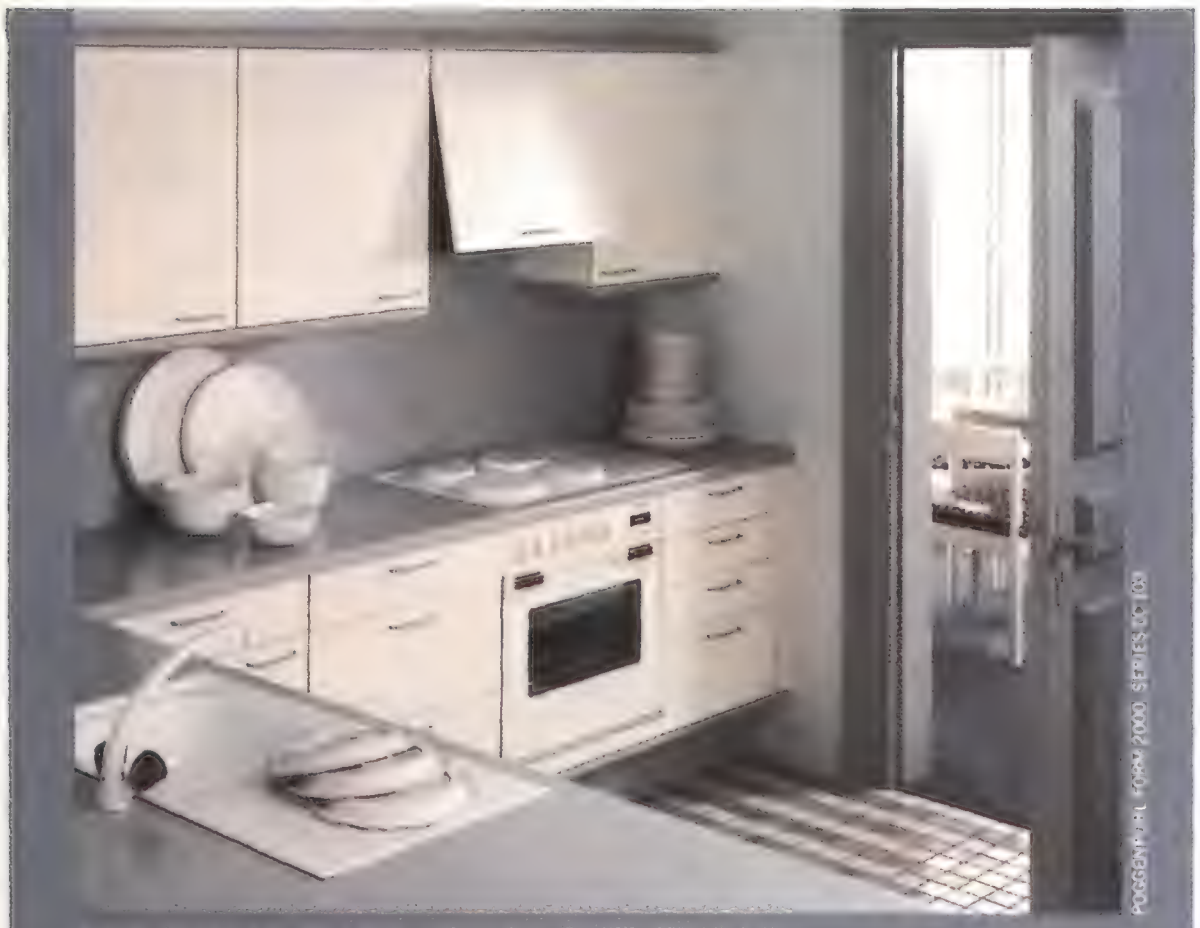

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and a cedar waxwing and ten mockingbirds—the notation, "1 barn owl." And above it are the names of us birders who helped see it. Mine's not spelled exactly right, but it's close enough for government work, as they say.

The man from GSA guided us to one of the old, deserted buildings in what had been the Naval Gun Factory, a World War I relic within the Navy Yard, which dates from 1799. This was a huge, bleak structure, unheated except for some electric radiators. The floor was littered with scraps of asbestos because, like many navy units here, it now belongs to the GSA and is being refurbished as, presumably, a warehouse of some kind.

A number of small, concrete-walled rooms line the end of the building. The GSA man went purposefully to one of them, then stopped. A new, shiny, stainless steel padlock gleamed on the door. Locked. It made the great, empty building—big enough, almost, for a football field, certainly big enough for a navy gun barrel—look especially gray and cold.

"Why is the door locked, I wonder?" said the GSA man. We didn't know.

"The owl's in that room, up on a ledge," said the GSA man. We didn't say anything. We stood and trembled in the chill wind that whistled through broken windows, so old that the remaining shards of glass were violet. The galvanized iron roof, far above, sighed and grated as the winter breathed upon it.

The GSA man left to make a phone call for someone with a key. The rest of us went outside because it seemed likely the air there would be warmer than in the building. It wasn't. We walked around to the outside of the concrete room. Beneath a broken window lay a little heap of tiny bones and roundish, dun-colored balls of fur. The Audubon people cried out in pleasure and dropped to their knees to fondle the clean-picked mouse skulls and fluffy little clots.

"Owl pellets!" exclaimed the Audubon people in the ecstatic tones of gourmet diners gazing upon épinards au Madère à la Germaine.

Reluctantly, they dragged themselves away from the detritus of owl life and we walked to the riverbank where we could look upon the Anacostia, its terribly polluted surface roiled and ribboned by the screaming northwest wind which by now had sunk the temperature into the teens. A gull wheeled in the gale, then

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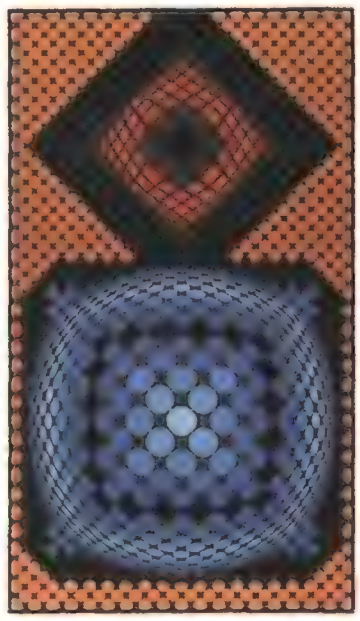
Jarle Rosseland, *A Cold Day*, original woodcut. Edition of 225.



Victor Vasarely, *Mita*, original serigraph. Edition of 125.

Each is accompanied by a certificate of authenticity and a full money-back guarantee.

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skidded down and splashed into the water.

"Black-back," said one Audubon person.

"Lesser or greater?" asked another.

"Lesser has yellow legs," said the first.

"Now that it's in the water, you can't see the legs," said the second.

"We can't list it," said the third.

They kicked disconsolately at the frozen mud. Then they decided to leave the icy, wind-whipped exterior of the building for the icy, clammy interior. The man from GSA appeared, and on his heels was another man, six-and-a-half feet tall, mighty of girth, thick-necked, a four-inch-wide cowboy belt slung low on his hips. And on it, instead of a holster, an impressive ring of keys. He spoke in a strong Southwestern accent which left little doubt but that his nickname was Tex.

"Y'all want to git in thet thar room?"

"You got it," we said. He approached it.

"Why, gracious me! Thet thar door's locked," he said. "Ah jest wonder who done *thet*."

"Could you unlock it?" we asked. He fingered his key ring doubtfully.

"Hell, man," he said. "Ah kin do bitter than thet. Be raat back, heah?"

He left. The wind shrieked outside. A starling somewhere above the building dropped dead from the cold and bonged on the roof. Tex returned with a pair of six-foot-long bolt cutters. He set the jaws on the patented, indestructible, case-hardened steel padlock and scrunched the handles together. His muscles raised lumps in his down jacket. There was a high-tension "ping," and he cleared away the debris of the indestructible padlock and swung open the door. Ah want to tell y'all thet yore bicycle lock ain't worth a damn around Big Tex.

We went inside the tall concrete room and looked up at the ledge under the ceiling. And there was "1 barn owl" looking down at us, unblinkingly and rather inhospitably. We all helped see it.

Under it was a little heap of wispy white mouse skulls and tibias and femurs and furry brown owl pellets. The Audubon people picked them all up, and broke the pellets apart and exclaimed enthusiastically at what they found. And I went outside to get a breath of good old 12-degree air.

In an alcove at the eastern end of the ground floor of the National Portrait Gallery there is now a small exhibit dealing with Bret Harte, poet and short-story

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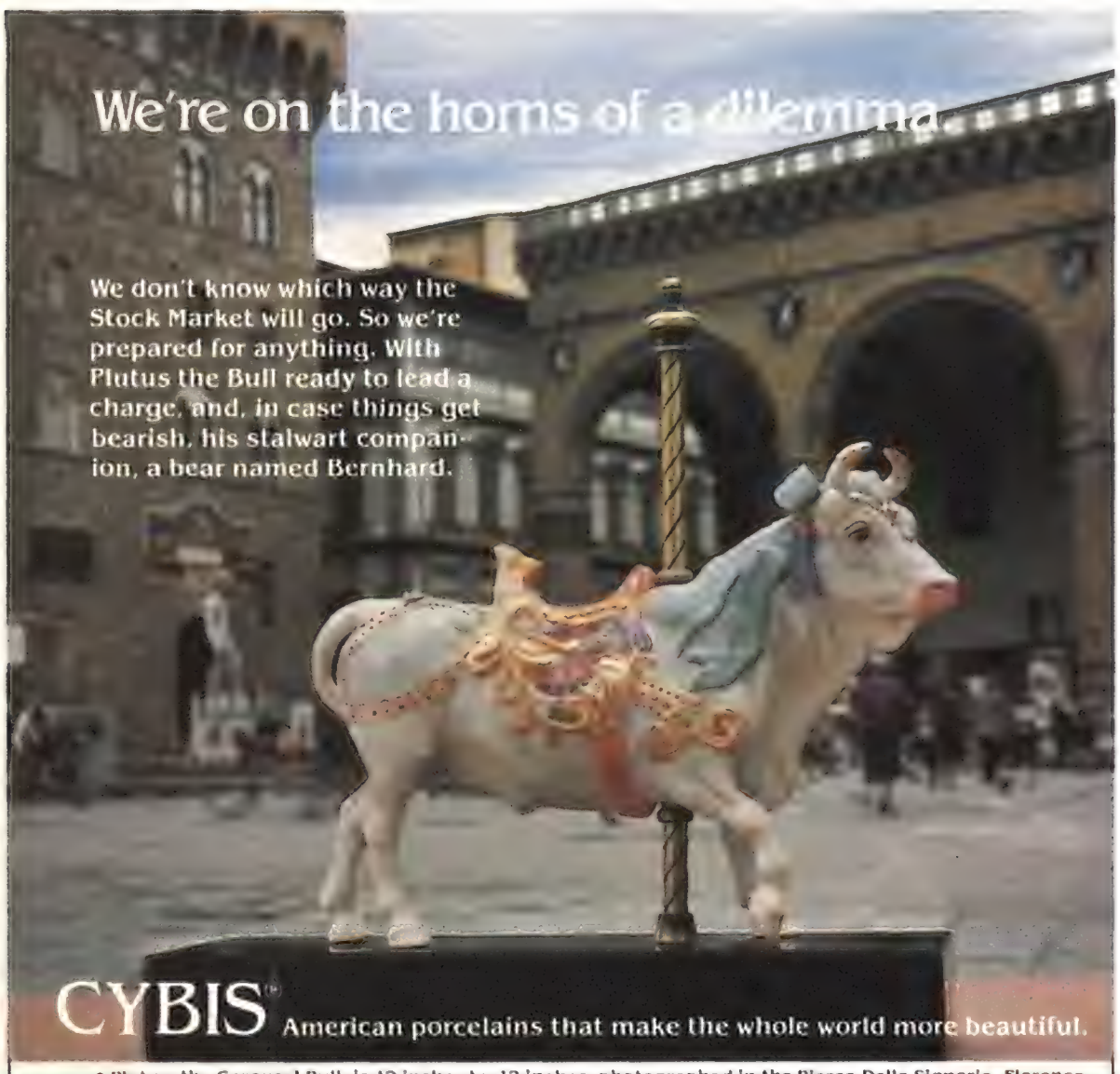
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writer associated with California in gold-rush days. He's slipping out of our memories, I'm afraid, but those who studied American literature will link his name with his short story, "The Luck of Roaring Camp," written in 1868.

After seeing the exhibit, I reread the story. The scene is a mid-19th century California mining camp. A prostitute gives birth to a baby who is adopted by the miners, fed on the milk of an ass, nurtured amid the beauty of the hills and christened Thomas Luck. The baby's presence affects the camp. The men clean the place up and raise solid buildings and feel a sense of permanence. But a tough winter brings a spring flood which wipes Roaring Camp out. The baby is drowned. The rough-hewn miner who tries to save him is bashed up and dies, holding the little body in his arms. "Tell the boys I've got The Luck with me now," he says as he expires.

Got it? A sound story idea; a wonderful setting; lots of exotic Western talk and social conditions; humor, tragedy and a special little sob at the end. It was sure-fire for its day, and don't knock it. Like any essentially good piece of writing, this reads well even today. Bret Harte cashed in on this and many other stories and poems and got to be quite well known. Then he went East to make it in the Big Time, and as often happens his work fell apart and he ended up a rather pompous hack. His rise and fall is sketched out effectively by Frederick Voss of the Gallery, who put up this fine little show.

I had never known that Bret Harte knew Mark Twain, that they had collaborated on a play, that it was a catastrophe and that Twain acquired a lasting grudge against Harte, becoming mottled with snarling rage whenever his name was mentioned. It turns out that Harte had persuaded Twain to help him put together a play inspired by what had been a popular Bret Harte poem. Twain, ever the sucker for the bad investment and the rotten deal, agreed. The play opened—its playbill is on display at the exhibition—and closed in short order. It lasted a little longer than Harte's first try at drama.

The failure partly explains Twain's enmity. But Fred Voss told me that Harte had a snide streak and couldn't restrain himself from making cracks about the decor of Twain's house. This seemed to Twain like a dig at his wife, and that was more than enough to set him off. "The

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most contemptible, poor little soulless blathskite [sic] that exists on the planet today," he noted of Bret Harte.

Harte went broke and was bailed out by his most loyal (and long-suffering) friend, John Hay, formerly Lincoln's secretary and by then a diplomat. Hay got the writer a job in the Foreign Service, and he lived out his remaining years in Britain. The exhibit has a tailor's bill incurred in 1874 for $230.35. The legal "judgment" on it is dated 12 years later. Hard on the tailor.

Being broke never bothered Bret Harte. John Hay wrote that when he told Harte that he, too, suffered from lack of funds, the writer said, "Your own fault. Why did you fool away your money paying your debts?"

The little show is great fun. It'll be there until mid-July.

Suppose you are a Hollywood biggie and you'd like nothing better than to use a Smithsonian museum as a setting for a couple of scenes of a film you are making. What do you do about it, and what are your chances?

Well, you write in, I suppose. Maybe you call someone you know. It really doesn't matter much because the answer is No. Smithsonian policy is to stay out of that business. The museums are for everybody, all through the operating hours, not for actors and directors, cameramen and continuity people and all the rest of the technicians, while sightseers are kept away during the shooting.

Only . . . once in a *great* while, an exception is made. James Smithson shifts uneasily in his sarcophagus, and the electric typewriters in the castle rooms jump on their desks, and elevators with no one in them suddenly rise to distant tower rooms and then return again, empty. But never mind. Once in an eternity an exception to the film rule is made.

One was made in the depths of this passing winter, when the people making the movie *First Monday in October* got permission to use the Arts and Industries Building to film a couple of sequences. The film deals with two Supreme Court Justices, a liberal man a little reminiscent of the late Justice Douglas and a conservative woman reminiscent of no one, yet.

To play the first part Walter Matthau appeared in a nice old-fashioned Chesterfield coat. To play the woman was Jill Clayburgh in a sort of plum-colored coat

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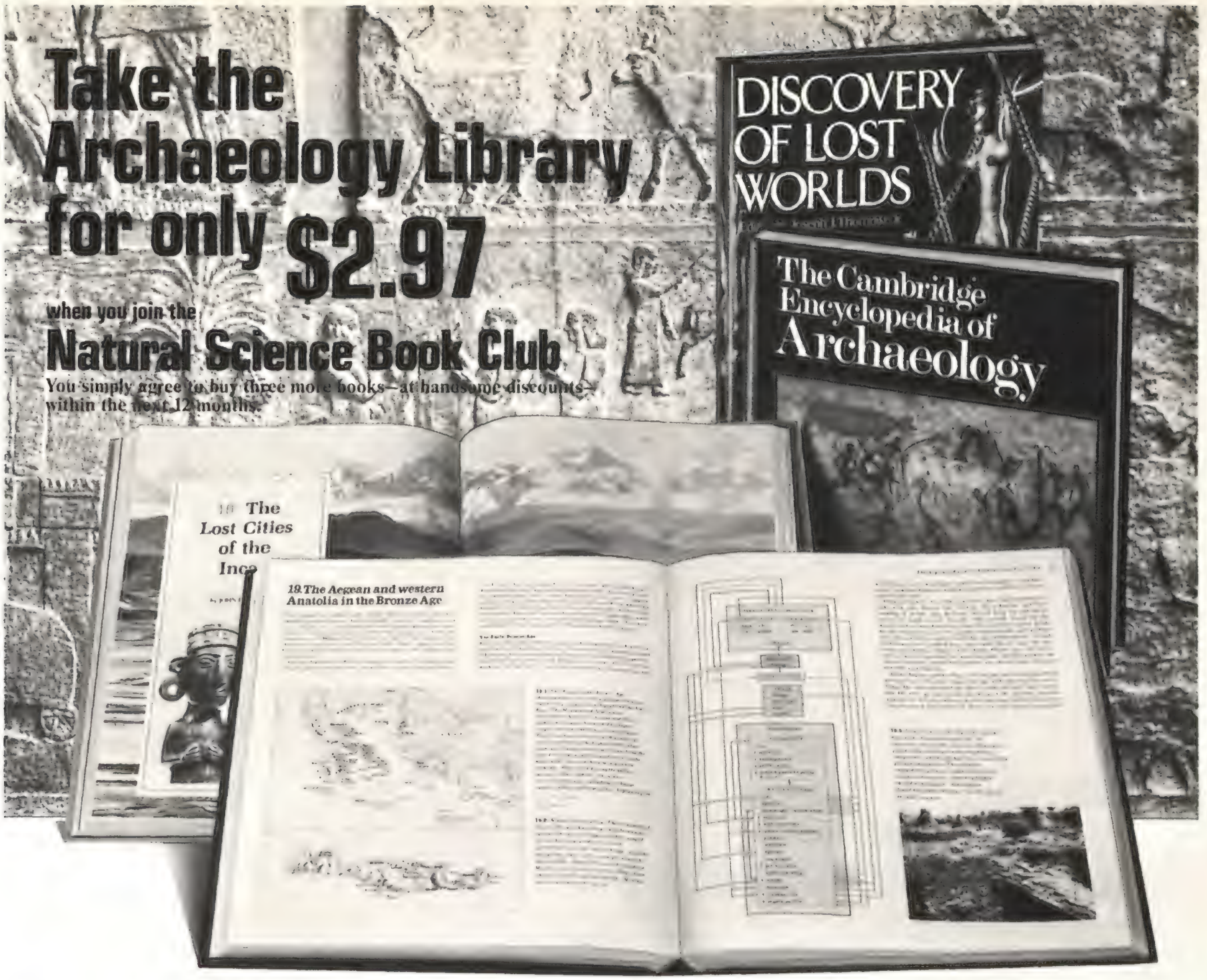
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Clayburgh, Matthau on location

with a gray hat. They showed up early one morning amid a caravan of huge moving vans all fitted out as power sources for cameras, lights, sound.

The scene was set beside the 1876 machinery which swishes and rumbles during the day, the big flywheels spinning and the shiny piston rods thrusting. Past these, the two stars were supposed to go, Matthau, then Clayburgh, half running.

All the Smithsonian staffers who could crowd the balcony did so and kept quiet so the director wouldn't kick them out. The two actors did their thing again, and again, and again. Walter Matthau looked just like Walter Matthau. Jill Clayburgh is tall and graceful and I think very beautiful. I watched her especially, and then I reluctantly left for my office.

Later, I went downstairs for a cup of coffee and passed along a corridor, not far from the filming. And coming toward me, obviously aiming for the Ladies, was Jill Clayburgh. I looked at her and started to smile and looked away, and she started to smile at me and looked away, and that was all.

I could kick myself. I could have asked for an autograph. I could have said *something*: "How do you like the Smithsonian?" or "What's a nice girl like you doing with all that machinery?" or "Let me take you away from all this" or even "It's the second door to the right."

I didn't say anything. We just passed with the small beginning of a smile.

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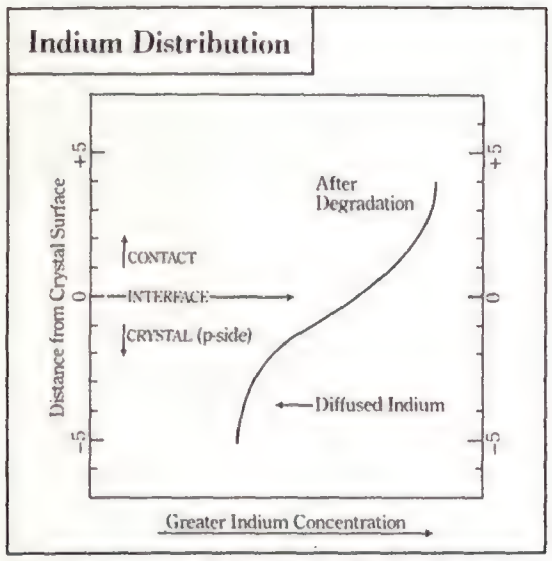

Electron microprobe analysis of a crystal-contact interface, indicating indium penetration into the PbSnTe crystal.

Diagram of hypothetical indium diffusion paths for a three-layer contact structure of Au-Pd-Au.

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Operating in the 5- to 10-micron range, the PbSnTe laser spectrometer can resolve the time-dependent emission of carbon monoxide, sulfuric acid vapor, methane and other species of interest in automotive exhaust. This permits measurement of transients in carbon monoxide to carbon dioxide gas conversion in a catalytic converter. This capability represents a significant advance over conventional spectroscopy instrumentation. The laser is also being tested by NASA for use in detecting the molecular species involved in chemical reactions in the stratosphere.

New knowledge of the process by which laser reliability is compromised has been revealed in fundamental studies conducted by Dr. Wayne Lo and his colleagues at General Motors. Dr. Lo's investigations have demonstrated that laser lifetime and stability are limited by the development of excessive electrical contact resistance. He has been able to stop increases in resistance by devising a multilayer ohmic contact consisting of different metal films. This configuration has extended laser operating lifetime to more than 1,000 hours and increased shelf-life to an estimated 25 years.

Slow degradation due to a gradual increase in contact resistance was observed in idle lasers stored at room temperature, but not in lasers maintained at a maximum temperature of 77 K, despite several hundred hours of continuous operation. These results suggested the temperature-dependent process of diffusion.

Degradation occurred primarily on the p-type side of the laser, where the contact consisted of a thin layer of gold followed by a

layer of indium. Electron microprobe analyses revealed that indium, a semiconductor donor, was diffusing through the gold layer into the crystal, apparently causing a reduction in hole carrier concentration near the p-surface. This effect was counteracted to a great degree by sandwiching a thin layer of platinum between the layers of indium and gold. Laser reliability reached a full year.

When degradation was still observed, although to a reduced extent, Dr. Lo advanced the hypothesis that diffusion and transport were taking place along grain boundaries in the polycrystalline contact layers. He proposed replacing the Pt-Au barrier with a three-layer structure. Since palladium film structures have fewer grain boundaries than those of platinum, providing fewer leakage paths for the indium, Pd was tested in place of Pt.

DIODE LASERS composed of $Pb_{0.86}Sn_{0.14}Te$ and fabricated with a variety of contacts were maintained at 60°C in order to accelerate aging, with periodic interruptions for testing. The results showed that a multilayer structure of In-Au-Pd-Au, in which the grain boundaries tend to be misaligned, provides maximal reduction of indium penetration, confirming Dr. Lo's hypothesis.

The misaligned boundaries force diffusion to take place laterally, which slows transport into the crystal. The additional layer slows the process even further.

Solving the contact problem represents the culmination of efforts that began at General Motors with the development of an "ingot-nucleation" vapor transport method for growing crystals. The resulting crystals are of high purity, with a dislocation density of less than 1000 cm^{-2}. Lasers made from these crystals incorporate a low temperature cadmium-diffused p-n junction. This process, invented by Dr. Lo, increases the laser's output to five milliwatts.

A tuning range of 500 cm^{-1} and pulsed operating temperatures of up to 140 K are achieved by a two-step annealing process. This technique induces a graded carrier concentration that increases infrared light confinement in the laser structure, thus reducing losses and increasing output.

"These innovations," says Dr. Lo, "combine to produce a laser that allows us to make measurements previously impossible."

THE MAN BEHIND THE WORK

Dr. Wayne Lo is a Senior Research Scientist in the Physics Department at the General Motors Research Laboratories.

Dr. Lo was born in Hupei, China. He did his undergraduate work at Cheng-Kung University in Taiwan. He received an M.S. from the University of Rhode Island and a Ph. D. in electrical engineering from Columbia University in 1972. His doctoral thesis concerned the characterization of deep-level states and carrier lifetimes in gallium arsenide light-emitting diodes.

Before undertaking graduate studies, Dr. Lo was instrumental in setting up the first American transistor production plant in Taiwan. In 1973, he joined General Motors, where he is currently in charge of semiconductor laser and spectroscopy research.

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Phenomena, comment and notes

Plant power in our future and a vision of an infinite universe in which the presence of life does make a difference

Toronto in January. Temperatures falling to minus 15 at night, climbing to three or four above zero at noon. Old snow everywhere. Grim. Except that underneath this city lies another one, an underground maze of glittering shops and cafés, punctuated by islands of vegetation reaching robustly for skylights. Waterfalls and palm trees beneath the frozen streets.

Science writers found surprises above ground, too, when they came to Toronto for the 147th annual meeting of the American Association for the Advancement of Science. In the here and now, they learned, the photosynthesis on which life depends can also supply the energy on which civilization depends. And in the misty distances of human knowledge, they heard, the universe may turn out to be truly infinite.

Plants, it seems, offer some elegant solutions to our energy problems. Beyond wood for heating our homes and corn for gasohol (p. 44), photosynthesis produces electricity, hydrogen and crude oil. In a year's time, the Earth's plants store more than ten times as much energy as we humans consume, so there's clearly some-

Beneath Toronto's financial district, greenery and water break winter's hold.

Upstairs in hotel ballrooms, scientists offered good news about photosynthesis.

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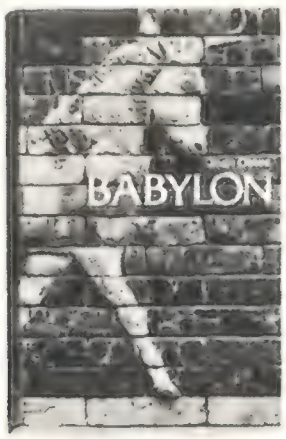

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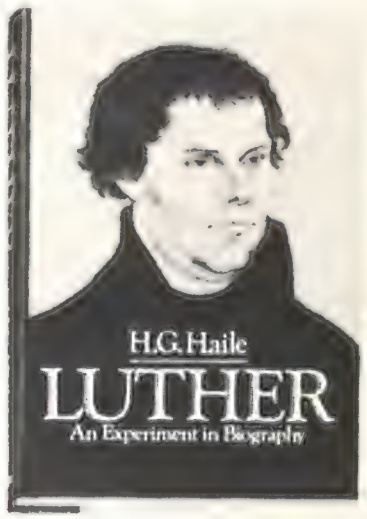

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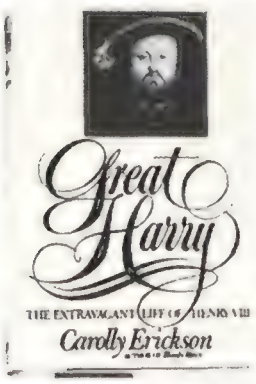

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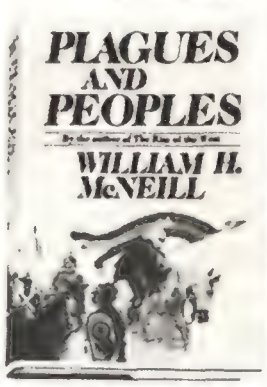

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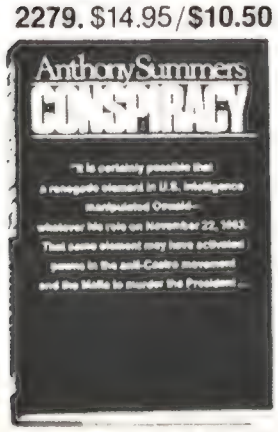

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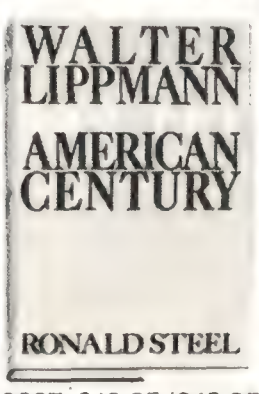

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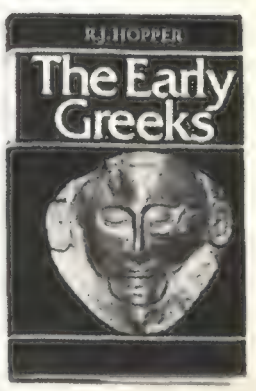

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thing to be learned—and, many people hope, imitated.

The energy that plants store, of course, is solar energy. As Canadian chemist James R. Bolton explained, the first thing a plant does is to convert sunlight to electricity with an efficiency of about 18 percent, a figure comparable to our best photovoltaic cells. If we could simply stick two electrodes in a leaf at the right place, figuratively speaking, we could draw off the current with no further ado.

In practice, Bolton and his colleagues at the University of Western Ontario synthesize a single molecule that combines the activities of several in a living leaf cell. Now they are trying to deposit a single layer of these molecules on a metal substrate. If they are successful, they will have a new kind of solar cell, one that works just like nature's.

Michael Seibert of the Solar Energy Research Institute in Colorado stays even closer to the natural world by removing the reaction-center proteins from a purple bacteria and coating electrodes with them. When such an electrode is placed in an aqueous solution near a second electrode, and the whole business is exposed to light, a small but significant electrical current is generated. Seibert is not trying to produce power, but to learn how nature does it. But his models could lead to biological solar cells.

If we had a cheap way to split the hydrogen out of water, we would have fuel until the oceans run dry. Driven by sunlight, plants constantly do this, then combine the hydrogen with carbon in the atmosphere to produce the carbohydrates on which all life depends. But deny the plants carbon dioxide, and you can end up with the hydrogen you're looking for.

At the Oak Ridge National Laboratory in Tennessee, Elias Greenbaum reported, scientists have used both green and blue-green algae to produce hydrogen. Thus solar energy is converted into stored chemical energy.

Then there's a two-step process that uses microbes to turn sunlight and carbon dioxide into crude oil. Morris Wayman, a professor in both forestry and chemical engineering at the University of Toronto, argued that the right combinations of microbes could turn out crude oil sooner and cheaper than the tar sands and oil-shale plants now getting so much attention.

In four-liter tanks at the university, photosynthetic bacteria use the energy in light to turn carbon dioxide into organic compounds. Then a second organism, feeding on these compounds, accumulates oily lipids not very different from those found in Alberta crude. The numbers are impressive: Wayman speaks of 5,000 barrels of crude oil equivalent per hectare or one million barrels per square mile in a year. The solar ponds do not require arable land and can be harvested every two days.

Other groups considered plants on the agricultural scale we are more accustomed to. One panel was given over to inconclusive discussion of food versus fuel: what will happen in the United States and the world if great chunks of farmland are planted to produce grains for fuel instead of for food?

A brand-new question for me was one discussed in another session: what will happen to U.S. agriculture if more of us start following the government's recommendations that we eat less meat and fat and more fruits and vegetables?

If such a shift happened all at once, it would have obvious and painful consequences for American livestock and grain farmers. But if the change were to occur gradually between now and the year 2000, according to Patrick M. O'Brien of the Department of Agriculture, then rising world demand for grain would keep U.S. farms in full production.

And if at the same time Americans also followed government urgings to lower their consumption of sugar, coffee, tea and cocoa, while increasing our exports of now-unneeded feed grains, our agricultural balance of trade would improve by $5 to $7 billion a year.

Our propensity for meat (something the government encouraged after World War II, when we faced huge grain surpluses, and is now discouraging on the grounds that it may be killing us) means that something like 85 percent of our agricultural land goes to feeding animals rather than humans. As Georg A. Borgstrom of Michigan State said, we are feeding the equivalent of 1.4 billion people here in our own country.

Borgstrom clearly thinks U.S. agriculture has been living on borrowed time. "For every ton of corn exported," he said, "two to 11 tons of topsoil are lost down the Mississippi" (p. 120).

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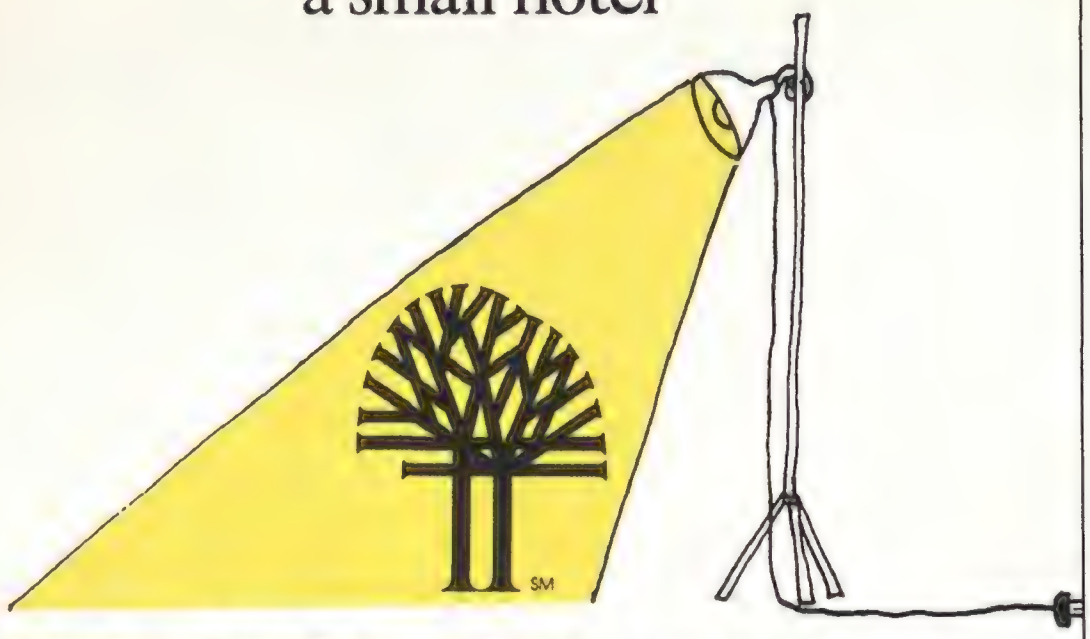

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The national meeting is also a time for science to take its own pulse, and this year the takers were concerned. At a news conference the AAAS chairman, the president and the president-elect worried about a declining national commitment to excellence in science, mathematics and engineering and also a growing scientific illiteracy among the general population. (All kinds of illiteracy worry them; President-elect D. Allan Bromley, a Yale physicist, quoted with horror the opening sentence of a PhD thesis he had recently seen: "This field of research is so virginal that no human eye has ever set foot in it.") They hope to combat both trends by working for better science education through their 283 member societies and with museums devoted to science and technology. The theme of next year's national meeting, here in Washington, will be scientific literacy.

The scientists are also worried about the impact of religious organizations on what can be taught in public schools. In a symposium on science versus tradition, the Smithsonian's Porter M. Kier presented the fossil record of evolution, saying that one could offer in evidence 100 million examples from museums and institutions around the world. But the afternoon session became a nonevent for the "straight" media: T.V. cameramen waited in vain for outbursts from "creationists."

National AAAS meetings go on for five full days, and after a while the dimly lit symposia and the harshly bright news conferences begin to blur together, the notebooks fill, the bundle of texts grows heavier. One strides past the underground oases unseeing now, hurrying from hotel to hotel, shifting mental gears from the age of the universe to the social impact of technology. Fun becomes work. And yet even when one's eyes are glazed, when the brain hurts at the thought of another report, when the first slide triggers instant deep sleep, even then a vision of the universe that seems to sweep further than ordinary minds (certainly mine) can create an excitement that will last long after spring comes to Toronto.

Such a vision came from Freeman Dyson of the Institute for Advanced Study in Princeton, who gave the Phi Beta Kappa Public Lecture. Dyson joyfully contemplates a future in which physicists will accept the endless diversity of the

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universe rather than try to unify it in a set of equations. He looks for a new science he calls cosmic ecology in which for the first time since Newton cosmologists will think of the universe as neither dead nor empty.

Speaking to a packed ballroom in the Royal York, Dyson took as his text the words of the German physicist Emil Wiechert in 1896: "The universe is infinite in all directions, not only above us in the large but also below us in the small. If we start out from our human scale of existence and explore the content of the universe further and further, we finally arrive, both in the large and in the small, at misty distances where first our senses and then even our concepts fail us."

Dyson feels that in the physics of the last 100 years, the unifiers have had things too much their own way. Those who see an endless diversity, Wiechert in the 1890s and John A. Wheeler (of the University of Texas) today, are pushed out of the mainstream. Dyson approvingly quoted from a recent Wheeler discourse, "Frontiers of Time": "Individual events. Events beyond law. Events so numerous and so uncoordinated that, flaunting their freedom from formula, they yet fabricate firm form."

"It sounds like Beowulf," Dyson comments, "but it is authentic Wheeler."

Wheeler is unique among modern physicists, Dyson continues, in taking seriously the possibility that the laws of physics may be contingent upon the presence of life in the universe. In his own cosmic ecology, life and intelligence would be equal with general relativity as factors influencing the universe.

In fact, Dyson says, he would be very disappointed if it turns out that the whole of physical reality can be described by a finite set of equations: "I would feel that the Creator had been uncharacteristically lacking in imagination."

Dyson does not expect to be disappointed. "Fortunately, the recent successes of particle physics and of cosmology do not exclude the possibility that the world of physics is truly inexhaustible, that John Wheeler is right when he says 'the universe is a self-excited circuit,' that Wiechert was right when he said the universe is infinite in both directions."

Years from now, by other waterfalls, this is what I'll remember from Toronto.

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This exquisite piece of original jewelry is designed in the form of a miniature Hourglass made of Pure, Solid 18 Karat Gold. And, it uses genuine placer Gold dust to measure time — and each "Golden Moment" that you will share with her in the future. The outer framework of the Pendant is delicately fashioned to the contour of an Hourglass. The actual hourglass, which contains the Gold dust, is mounted on a pivoting Gold yoke and can be easily turned to reverse the flow of gold and start the passage of another new "golden moment."

The Gold dust used in this unique piece of Collector Jewelry is taken from the creek beds and streams located in one of America's oldest and most famous gold mining districts — "Gold Hill" — near Boulder, Colorado. It is slowly and painstakingly "panned" by hand in the very same way that Rocky Mountain prospectors have been collecting gold dust and nuggets ever since the Gold Rush Days in 1849 — for over 130 years.

The Hourglass shape has long been the symbol of eternity. So, a gift of this lovely Hourglass Pendant is a tender way to express your everlasting love. Whenever she wears this unique Pendant, she'll remember those shared "moments" and smile. And, after all — what pleases a woman more than the sentiment expressed with gifts of Gold and Diamonds. Whenever she wears it, it will start conversations — and give her a chance to tell others about the wonderful memories it represents.

RARITY ASSURED — NOT AVAILABLE IN STORES

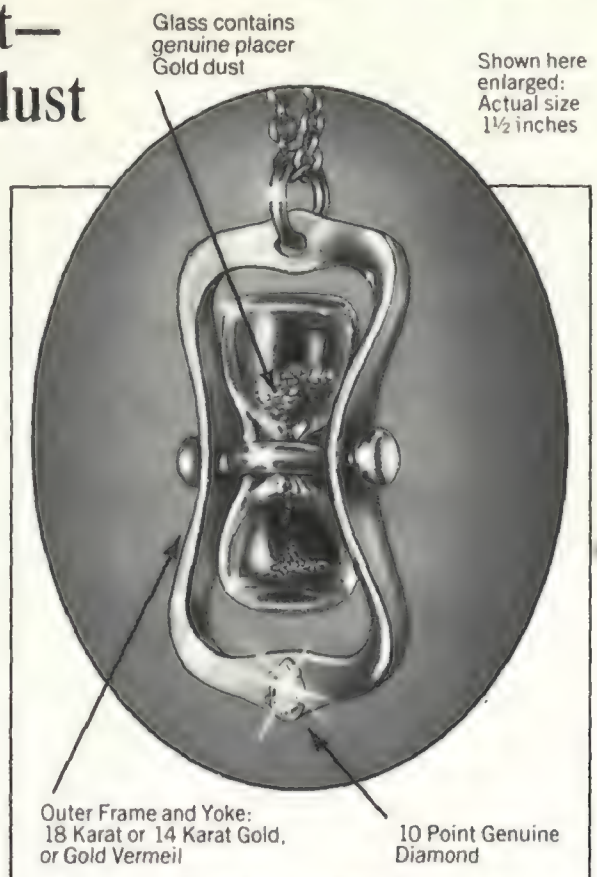
To assure the rarity, the Limited Edition version of these extraordinary Pendants is being restricted to just 2,500 pieces, worldwide. They are being issued exclusively through our organization, the Limited Editions Collectors Society of America, and are being offered to collectors of fine, handmade jewelry, and to those individuals who are seeking truly unique "Collector Jewelry" pieces for gift-giving.

The design (which is protected by a copyright) was created at the J. T. Inman Goldsmith workshops. Perhaps you have already heard about, or seen, some of the other original creations which have been handmade at Inmans. They are a small "specialty" jewelry model shop, located in Attleboro, Massachusetts, that has been designing and making unique, fine, handcrafted "specialty" jewelry since 1882, serving clients such as Tiffanys, Cartier, Neiman Marcus, Shreves, Halls, and other fine jewelers for many years.

These extraordinary Pendants were created by Inman's designers exclusively for us, for sale to members of the Collectors Society and to other collectors interested in participating in this Limited Edition offer. They will <u>not</u> be sold through retail jewelry stores or department stores, and the *only* way to obtain them is by responding to the Society's advertisement.

A Registered Edition is also available in 14 Karat Solid Gold or Gold Vermeil (Solid Sterling Silver plated with Gold). However, when the Limited Edition is completed and sold out, all dies and molds will be destroyed, and both Editions will be closed forever.

The Registered Edition can also be purchased without a Diamond — at a much lower cost. In fact, you can own one of these remarkable Pendants for as little as $125.00.


Glass contains genuine placer Gold dust
Shown here enlarged: Actual size 1½ inches
Outer Frame and Yoke: 18 Karat or 14 Karat Gold, or Gold Vermeil
10 Point Genuine Diamond

The Hourglass — symbol of Time and Eternity — Fashioned of Pure 18 Karat Gold, Uses Gold dust to Measure the Golden Moments you spend with her.
And, the Gemstone — a Genuine 10 Point Diamond — is Forever.

1,000 pieces of the Limited Edition have already been allocated to fill the orders which are expected as a result of a private offer being sent to the Society's own membership list. This group now numbers in excess of 12,000 serious collectors, nearly half of whom have been subscribers to our previous offers of unique "Collector Jewelry."

The remaining 1,500 pieces in the limited issue are being offered to the general public in advertisements such as this one, which are appearing in a number of national publications that will eventually reach over 10 million affluent readers.

We offer you an opportunity to be among the few collectors who will obtain this new Limited Edition piece. It makes a wonderful gift for birthdays, anniversaries, and other important "special" occasions. It not only makes a unique, charming, and thoughtful gift, but it is one of the finest, and the most *meaningful* that you can ever give when you want to tell someone how much you care about the moments you have shared with her.

AN EXCEPTIONAL VALUE — INDIVIDUALLY HANDCRAFTED

The Pendant is sturdy and solidly constructed, yet it is very comfortable for her to wear. Its sparkling 10 Point, round-cut Diamond is mounted into a deep, firm "setting" to make sure it is secure. The placer Gold dust is permanently sealed into the pyrex Hourglass and cannot be lost.

It will maintain its golden glow for endless moments — forever.

You will be able to tell her that her Pendant has been individually hand-crafted, cast by skilled goldsmiths, and then hand-assembled and polished with the utmost meticulous care. Seventeen separate hand operations are required to assemble each and every Pendant prior to the final inspection by the Master Goldsmith. Every Pendant comes with a 12 Karat Gold-filled Chain, 24" long, which she can easily adjust for casual or dress wear.

Every "Golden Moment" Pendant is an extremely outstanding jewelry value. Many ordinary Pendants — with little to no sentimental meaning — having the same weight content of Gold, cost considerably more. You can verify this by going to any jewelry store to examine the prices of the wide variety of the factory mass-produced pendants that are available. You will find that many of them cost more, and that most cost much more, than the "Golden Moment" Pendant. However, none will have our Pendant's unusual combination of hand-craftsmanship, rare beauty, unique design — or its most important feature — its impressive "sentimental" significance.

There is a simple explanation for this outstanding Pendant value. The Limited Editions Collectors Society makes all of its exclusive offerings *directly to the public*. Its products are not distributed through retail stores, catalog houses, mail-order marketing syndicates, who must add "markup" to the items they purchase for resale.

Because of the very small quantity of Pendants being offered, if you wish to share a new "golden moment" with the special person in your life and commemorate those important golden moments in your past, we strongly recommend that you act promptly by mailing us your order using the coupon below, without delay. Or, better still, to be *sure* that your Pendant is reserved for you, *call us at our toll free number* - 800-225-5252 — to place your reservation before mailing your order.

OUR UNPRECEDENTED, EXTENDED GUARANTEE

Every Pendant in both the Limited and the Registered Edition is unconditionally guaranteed. We invite you to examine this unusual and distinctive Collector Jewelry piece, without any obligation whatsoever. Look it over. If you are not completely satisfied, when it arrives, send it back for a full refund. (We'll also reimburse you for whatever it costs for postage and insurance to return it.) Or, even after you have presented this stunning Pendant to that special person, if you find that she is not totally pleased, we will buy it back. In fact, due to the very limited availability of these Pendants, we will be glad to re-purchase yours any time within *one full year* from the date of your order. After all, in the long run, we don't expect Diamonds or Gold, or Gold dust or Silver to lose their value — they never have.

There is another advantage to this extended, one-year guarantee. You may acquire your Pendant *now — before the Edition is closed* — and still present it as a gift at a later date — such as the upcoming Mothers Day (May 10th) — a future Anniversary or Birthday that is still many months away — or as late as Christmas of 1981.

The Collectors Society is a private organization, founded by a group of avid collectors, art lovers, and historians, including some who have distinguished themselves in the fields of Arts and Letters. In addition to creating and marketing unique and exclusive fine Collector Jewelry, the Society also issues authentic reproductions and replicas of historic artifacts, plus exclusive artworks and official Commemorative products. It has received a number of important awards for excellence and has been commissioned by a number of non-profit organizations, including the Winston Churchill Foundation, the Freedoms Foundation at Valley Forge, the Old North Church Museum, and the John F. Kennedy Library Fund, to create and market their official commemoratives to collectors.

Every collector item issued by the Society is protected with a Certificate of Authenticity signed by the Chairman of the Board of Trustees of the Collectors Society. Your Certificate, showing the serial number of the particular Pendant sent to you (the number recorded in the Society's Master Registry of Ownership and microfilm library), will be sent to you within thirty days after you have received delivery. This protects your investment against inferior imitations or counterfeits and also documents the value of your serially-numbered Pendant for insurance purposes.

The "GOLDEN MOMENT" Pendant is truly a captivating piece of Collector Jewelry and a gift which she is sure to treasure always — one which will assure many more golden moments each time she wears it.

We again stress the fact that only 1,500 are being publicly offered. So, to avoid possible disappointment or needless delay, we strongly suggest that you mail your completed order coupon just as quickly as possible before the small Limited Edition is completely sold. There is also another reason for acting promptly. Due to the volatility of the gold market, we cannot guarantee the prices published here for any longer than thirty days.

So, to make absolutely sure a "Golden Moment" Pendant is held in reserve for you — you should call our Mail Order Service Center — NOW — toll free (at 800-225-5252) prior to mailing your order.

THREE REASONS TO ACT PROMPTLY

- Over eighty per-cent of this Limited Edition is already sold, and orders are arriving daily. Because there is already a large backlog of orders, you should call us immediately to assure delivery.
- The future pricing of Diamonds is very uncertain due to the political situation in South Africa.
- Due to the volatility of the Gold and Silver markets, prices shown below can only be guaranteed for thirty days.

TO SPEED DELIVERY
CALL TOLL FREE 800-225-5252
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(In Massachusetts, call collect 617-749-1020.)

To: Limited Editions Collectors Society
10 Heritage Square
South Hingham Office Park, Hingham, MA 02043

LIMITED EDITION † *(Limit 2500)*

☐ 18 KARAT SOLID GOLD with 10 point DIAMOND $695.00

REGISTERED EDITION †

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☐ 14 KARAT SOLID GOLD (NO DIAMOND) $395.00

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*Gold Vermeil is Solid Sterling Silver electroplated with 24 Karat Gold

Please forward to me _____ *(Quan.)* "GOLDEN MOMENT" *Pendant(s) as indicated.*

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Charge to: ☐ American Express ☐ Master Charge ☐ BankAmericard/Visa ☐ Diners Club

Card Number _____

Valid from _____ to _____ S M 381

Please add $2 for handling, mailing and insurance for each pendant ordered.

☐ Confirming Telephone Order

Signature _____

Name (Please Print) _____

Address _____

City _____ State _____ Zip _____

† *Ownership certificates showing registration numbers are mailed about 30 days after delivery is completed.*

By Michael Parfit

Corn-belt enthusiasts see energy salvation in the use of alcohol as fuel

One distiller, Alvin Mavis, drives his car on pure spirits and he believes that all the rest of us may soon be riding high

Photographs by Robert Frerck

There is no reticence in the soul of Alvin M. Mavis. During the Bicentennial festivities, he rode a horse for 83 days from Springfield, Illinois, to Valley Forge, Pennsylvania, and he doesn't think that refueling America is going to be much more strenuous than that ride. He sits in his small office (near a framed proclamation praising him for "unquenchable enthusiasm" and "unsurpassed fervor"), a phone in one big hand and a flyswatter in the other, listening to the sweet hum of the machine in the next room as it makes corn into the juice that runs his car, and he conjures up a glorious future.

"If we don't get a lot of liquid fuel, America will have to change its way of life and that means going backward," he says. "But we want big cars, we want them air-conditioned, we want a market for agriculture, and we can have it all."

Alvin Mavis, retired cavalry colonel, farmer and executive director of Agri Stills of America, based in Springfield, Illinois, is talking about alcohol. To Mavis, alcohol is the magic fuel that will wash away America's oil blues, replacing dependence on Arabs with independence for U.S. farmers.

"We can put one or more of these stills in every town in the country," he asserts. (Once started, he runs along without prompting as enthusiastically as one of his 500-gallons-per-day stills.) "We can get this thing decentralized and get our hands on that liquid fuels situation, and we're going to have more meat at a better price, and more food than we've ever had. We'll have real economic growth, we can completely eliminate our deficit balance of payments, and we'll reduce our inflation rate. It's like going West!"

Al Mavis owns a big, air-conditioned car—a 1975 Ford LTD—which runs entirely on 190-proof alcohol. The car is not perfectly adapted yet; on a recent promotional drive the car zipped along vigorously, like its owner, then stalled without warning at the corner

The 250 bushels of corn he sits on would, in Al Mavis' still, produce 625 gallons of fuel for his car.

of Walnut and Monroe streets in Springfield. But such occasional proofs of the uncertainties that loom ahead for alcohol proponents don't bother Mavis at all.

"You'll find contradictions to what we say all over the country," he acknowledged, "but we don't care because we're right."

On at least one point Mavis is right: the whole brew of the alcohol fuels' future is turbulent with contradictions. Although it is obvious a new industry is being born, no one yet agrees on its future size, shape, speed of development or how much it can really do to free us from dependence on oil. The only thing most authorities agree on is that it is taking off.

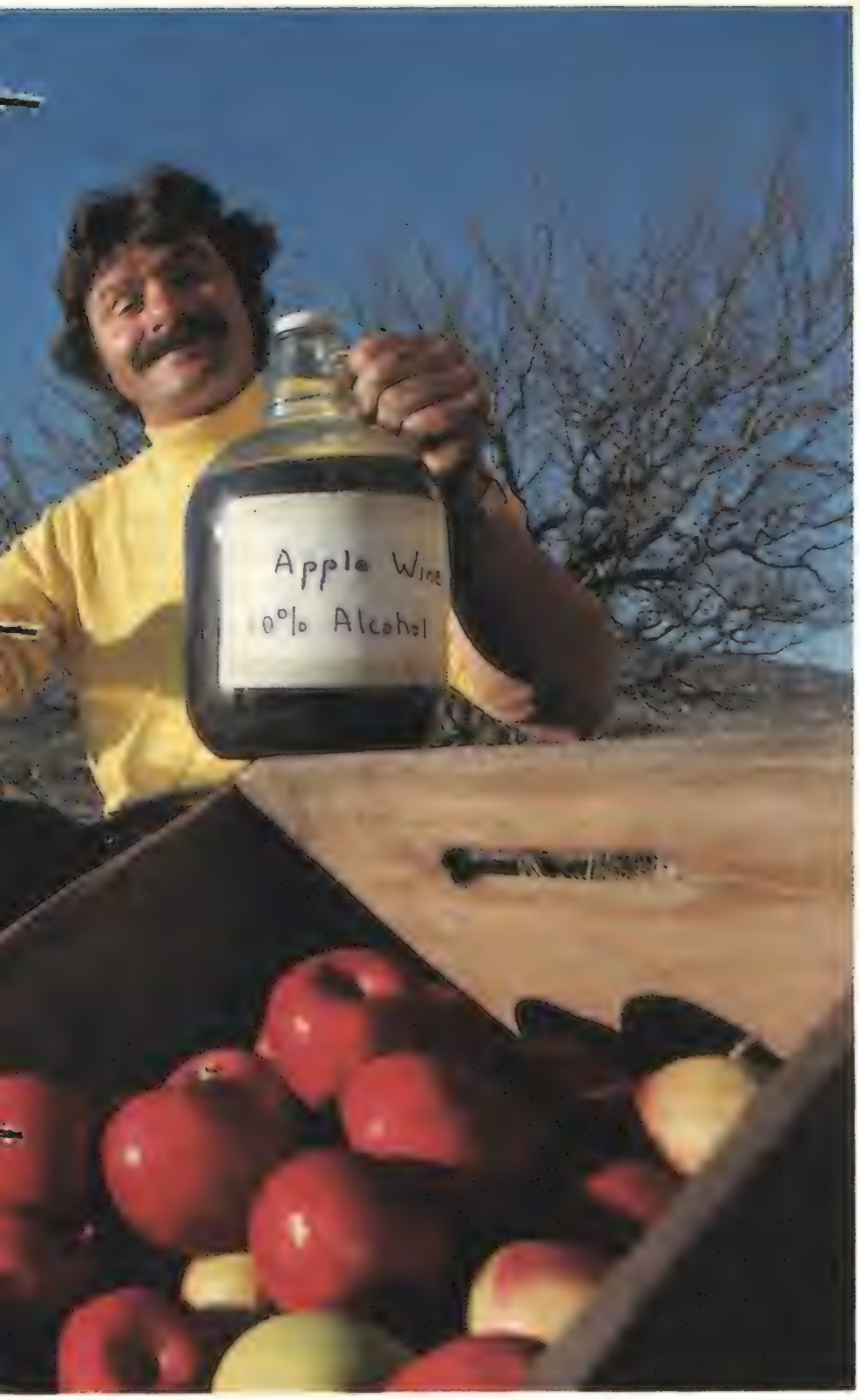
"There is a boom factor here," says Lloyd Costley, general counsel with a Congressional/Presidential organization called the U.S. National Alcohol Fuels Commission. The commission has compiled a list of 300 proposed large-scale alcohol production plants which, if all were built, would produce a total of approximately three-and-a-half billion gallons every year. The Bureau of Alcohol, Tobacco and Firearms reports that more than 100 of the builders of these proposed facilities have already applied for the necessary permits, while some 8,600 permits have been issued for small stills (under 10,000 gallons per year). Several major oil companies, among them Texaco and Ashland Oil, have recently announced plans to begin producing alcohol with which to make gasohol, a fuel which in the past couple of years has gone on the market in almost every state in the Union. A year ago a government-set goal of 500 million gallons of alcohol fuel per year by the end of 1981 looked hopelessly optimistic; now that quantity appears likely to be exceeded. "In the gasoline business," an oil marketing newsletter reports, "alcohol is perhaps the fastest comer since unleaded took off in the early Seventies."

Fermenting apples for fuel (and a bit of home-brewed wine), Jamie Jacobson has gone on the gasoline wagon.

However, 500 million gallons of alcohol, which might be enough to fill a few swimming pools in Beverly Hills if they ran out of champagne, is a thimbleful compared to our gasoline habit, which consumes more than 100 billion gallons a year. And expert opinions on alcohol's potential beyond that amount differ so widely they might refer to different planets.

A recent study by the Gasohol Study Group of the Department of Energy's Energy Research Advisory Board (ERAB) concluded gloomily last spring that agricultural alcohol production could displace less than one percent of U.S. gasoline consumption after 1985. But the force of ERAB's report was somewhat

Michael Parfit wrote on dolphin intelligence in the October 1980 issue. His recent book, Last Stand at Rosebud Creek, *is on energy and the environment.*



His 1972 car, at left, which runs smoothly on alcohol, leaves rich aroma of an apple orchard in its wake.

tempered by controversy over the fact that one of the seven members was a research manager with a major oil company more committed to synthetic fuel than alcohol. At about the same time Dr. Barry Commoner, noted environmentalist and erstwhile Presidential candidate, testified before the National Alcohol Fuels Commission that with a restructuring of agricultural production similar to that which integrated soybeans into a corn-dominated system, American farmers could produce 50 billion gallons of fuel alcohol per year "without reducing food or feed production," and without increasing soil erosion (see p. 120). While the ERAB report leans toward coal as a better source for the fuels of the future, Commoner suggested that with the development of alcohol production from woody plants and waste the United States could produce the fuel equivalent of 150 percent of the present annual gasoline consumption, and nutritive material as well.

Other reports are similarly varied. The General Accounting Office cautiously observed that "it appears entirely feasible for the nation's vehicle fleet to be operating on a ten-percent ethanol, 90-percent gasoline blend (gasohol) by the year 2000," which would mean an annual ethanol production of about ten billion gallons. And even the Department of Energy is a house divided on this issue: in contrast to ERAB's gloomy views, the Department's Office of Alcohol Fuels (OAF) is only slightly less buoyant than Alvin Mavis. After the November elections, a spokesman for the OAF, William Holmberg, who likes to talk about the "revitalization of rural America," waved the banner of alcohol with all the fervor of a born-again cold warrior:

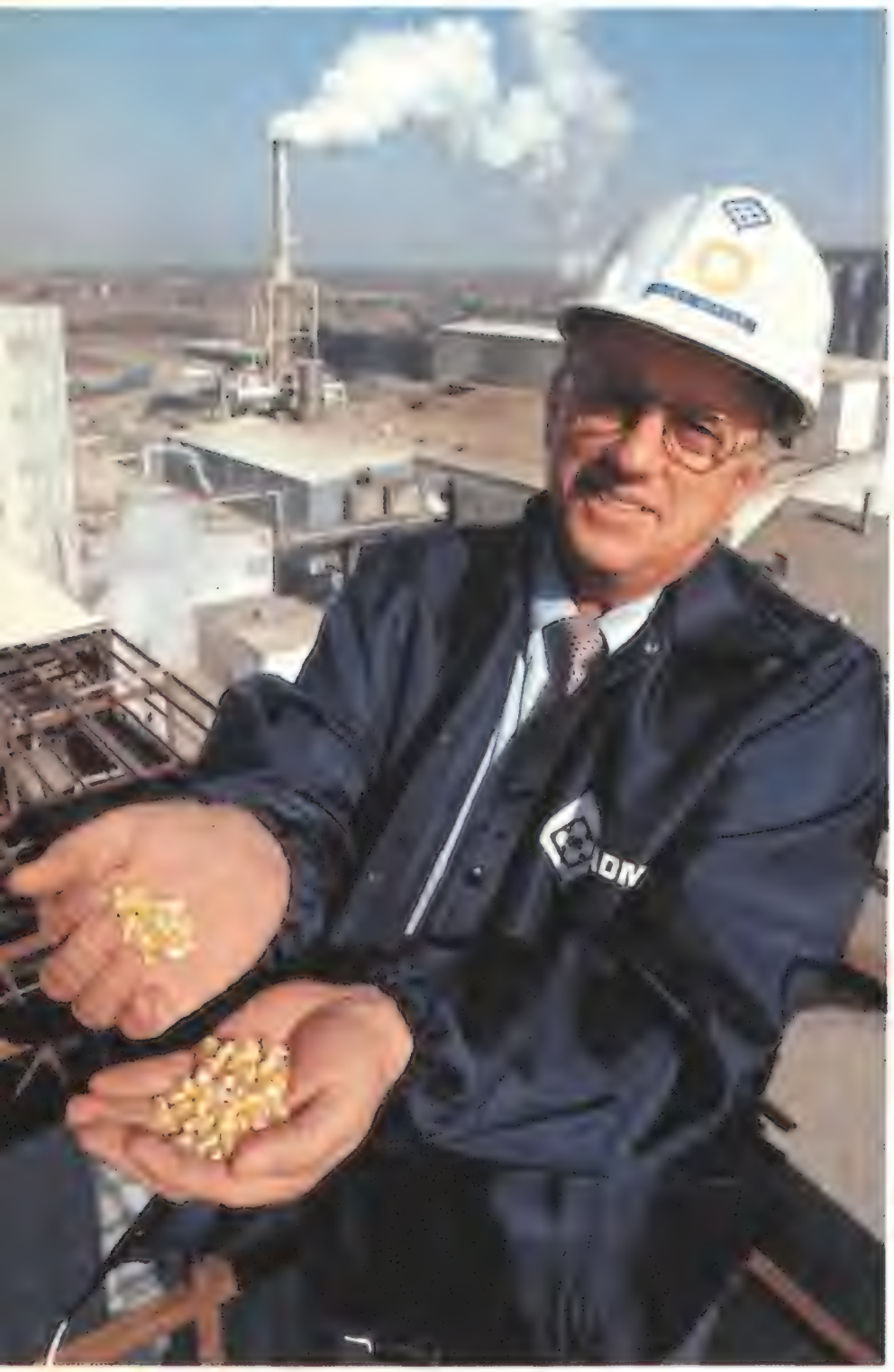
"From a national security point of view," he said, "in dealing with international Communism or Soviet imperialism, there is no stronger defense than a peaceful offense involving prosperous farmers, vitalized rural communities and free-enterprise-driven community businesses."

Although Mavis, Commoner and Holmberg are obviously not political comrades, their shared zeal for this source of energy is typical of the broad reach of the alcohol enthusiasm.

"Everyone's excited," said Jamie Jacobson, who owns a small still in Paonia, Colorado. "My hippie friends love it because it's an alternative energy supply, and my conservative friends think it's OK because it's fuel. It hits home with the automobile, and everybody's got a fascination with the automobile."

Jacobson's workshop is a log barn. His still, which he constructed mostly from scrap, cost him only $350.

Alcohol as a future energy source



In Richard Burket's hands, grain becomes a source of alcohol at the Archer Daniels Midland distillery.

One of the appealing things about the production of alcohol is the idea that anyone with five acres, a corn patch and a little mechanical know-how can make his own fuel, and Jacobson has built the quintessential backyard brewery. It stands behind his small frame home like an old iron sailing ship, its slender, rusty columns reaching for the sky. Made almost entirely of salvaged junk, it cost him $350. Jacobson didn't exactly grow his own fuel, as he was given 6,000 gallons of spoiled apple juice to run through his still, but he has produced enough 160-proof alcohol from some of that juice to power his 1972 Peugeot station wagon over 4,000 miles.

"The only problem I've had," Jacobson says, "is some kind of growth in the carburetor that dries out like a white powder and smells like Parmesan cheese."

A ride in that wagon is convincing. This home-brew fuel is not as pure as the stuff Al Mavis pours in his LTD, and the conversions to its engine are elegant but far simpler. Unlike the LTD, which concealed its fuel source as if it were embarrassed, the Peugeot reeked, trailing through the clear Colorado air the unmistakable essence of an abandoned orchard. Nevertheless, Jacobson said, with the wide grin of a man both curious and proud about his own invention, people still refuse to believe that alcohol makes it go. "They think it's some kind of trick," he says.

Alcohol-powered cars: still some bugs

There's no special magic to operating internal combustion engines on alcohol. In Brazil, the first country to take the alcohol pledge, about 71,000 cars—some made by U.S. automakers—now run on the stuff. In this country, at the University of Santa Clara, a Jesuit college south of San Francisco, engineers have been studying alcohol-powered cars for 12 years. The university's research served as groundwork for work being done by a neighbor, Alcohol Energy Systems, for the state of California. AES has a contract to adapt the first eight cars of two 50-car alcohol fleets the state wants to test. They're working out some problems of fuel alcohol such as the difficulty of starting in cold weather (Jacobson solved that with a tiny gasoline auxiliary tank) and they're working on the details of performance and emissions.

The university, says Joe Nebolon, an engineer, has determined that a gallon of ethanol—the alcohol derived from agricultural products—will propel a car about two-thirds as far as a gallon of gasoline, while the same amount of methanol—derived from coal—will take it about half as far as the gas.

Those aren't hard figures to produce, given the basic energy content of the various fuels. The emissions are another matter. Some alcohol enthusiasts like to say

that about all that comes out of the exhaust of an alcohol-fueled car is carbon dioxide and water; this is not just homegrown fuel, they say, it is a clean fuel and environmentally benign.

"No, no!" Nebolon says, a violent response from so easygoing a man. "We are alcohol proponents here, but we're not afraid to discuss the bad points. Alcohol is by no means benign. It's just no worse than gas." What comes out of a car burning alcohol, Nebolon says, contains fewer nitrogen oxides, but a whole lot more of the group of chemicals known as aldehydes, such as formaldehyde. Aldehydes are strong eye irritants and may pose other dangers to human health.

Those emissions, which contribute to smog, can also be cleaned up by the standard smog-control devices on cars now. But because of their potential to add new chemicals to the already-deadly murk over the cities, the Santa Clara engineers try to discourage backyard tinkerers from converting their own engines.

"Petroleum products have done a lot to foul our own nest," says Professor Richard Pefley, director of the research program. "I don't want to be part of another fuel system that will do the same thing."

Nebolon does not share Mavis' optimism about alcohol's potential as savior of the traditional American way of life.

"Ah, yes," he says with a lean smile. "The American Dream, to keep free and traveling." He shakes his head in mild sorrow. "No. But maybe it will save us from World War III."

A modern equivalent of alchemy

Alcohol may also save us from being buried in our own garbage. That prospect is a principal concern of N.J. Congressman Robert A. Roe, vice chairman of the National Alcohol Fuels Commission. Fifteen million tons of garbage are dumped on his state every year, and a lot of that material, Roe says, could be turned into as much as one billion gallons of fuel.

This marvelous transformation is accomplished by application of enzymes—organic instigators of chemical breakdown—to that part of the garbage made of cellulose. The process may be the modern equivalent of alchemy when you compare the values of trash and fuel, and a foremost alchemist is Dr. George Emert, director of the Biomass Research Center at the University of Arkansas. Emert first observed the process in 1966 when he noticed a small army of beach hoppers eating a paper cup. More recently, while working for Gulf Oil Corporation, he completed three-and-a-half years of research and design at a pilot plant built to test the application of this natural phenomenon.

"We have been visited by 400 of the top 500 U.S. companies and representatives of nine foreign nations," Emert says. On the windowsill behind his desk is an array of small bottles containing samples of materials from which he has produced alcohol: rice hulls, sawdust, corncobs, pressed clarified sludge, birch wood, municipal waste, molasses, water hyacinth.

The still at Archer Daniels Midland, six stories high, produces much of the alcohol used in U.S. gasohol.

"We have proved the process technically feasible," he says flatly. "The only questions we have now are engineering questions. The next logical step is to scale up to a larger pilot plant. At that point the technology can be utilized in commercial operations.

Dr. Emert and colleagues are completing plans for a $19.1 million demonstration plant. If all obstacles are overcome, he says, the process may be available for commercial use by 1985.

Emert, however, has become known as an outspoken

opponent of small-scale alcohol development. Producing less than about three million gallons a year, he says, is like producing a "clang bird," a mythical cast-iron creature which flies in concentric circles until it runs into itself with a clang. This, he contends, is because in small stills, taking into account the energy required for planting, harvesting and running the still, the production of one gallon of alcohol requires two gallons of gasoline. Beyond this, he says, there can be problems using current technology at that level of operation. His figure has been angrily challenged. A recent report prepared for the Department of Energy and the Alcohol Fuels Commission insisted that each gallon of alcohol produced could save up to one and a half gallons of crude oil. But Emert's clang-bird theory has been widely quoted, and applied to the whole alcohol fuel problem.

Even if there were no flap about that cast-iron creature of doom, the promise of alcohol would still be stuck in a morass of conflicting statistics. It is clearly unlikely, in spite of Alvin Mavis' enthusiasm, that alcohol will ever return us to the days of abundant, cheap fuel—the current price of $1 to $1.80 per gallon wholesale for ethanol may drop in real dollars as alcohol production increases, but the cost of making the fuel from garbage will be no cheaper, and the farmers who root for alcohol production certainly don't expect it to lower the price of corn.

Financing to build pioneering plants is tough to find. With most of Congress' funding going to other sources such as coal and oil shale, the financial community is hesitant to commit itself to this less-traditional, nonfossil fuel. And some experts suspect that the industry survives now primarily on government subsidies, such as they are. "As actual costs come in," says Pefley at the University of Santa Clara, "I think we will see some disillusionment." It is also not encouraging to note that most of the people now making money off small stills are those selling the stills, not the alcohol.

One progressive entrepreneur found himself mired in a good thing gone slightly awry last summer, when his brand-new medium-sized plant had trouble producing as much alcohol per bushel as advertised, and when a temporary gasoline surplus slowed the market for gasohol. To hang on until better times, the owner of the three-million-gallons-per-year plant was searching for bargains in fermentation stocks: among them he found a million bushels of damaged seed corn and 45,000 pounds of corn syrup that by some imaginative error was contaminated with Tabasco Sauce.

But the hottest argument against alcohol development is made by those who fear that in exchanging gasoline for corn squeezings we may invade a food supply that is even more desperately needed than fuel.

Pouring food into our cars while the world goes hungry seems to be the ultimate in international arrogance, and in that context some can see alcohol bringing on a world war, rather than stopping it. Producing our alcohol from trash is obviously part of the reply to this concern, but since that technology is still not fully established, a different answer is more frequently used. Most corn grown in the United States is fed to livestock, not exported to feed humans, and the residue from the manufacture of corn alcohol can also be used as livestock feed; it retains all the corn's original protein.

"The hogs," Al Mavis says, "stand on their noses to eat it."

George Emert, University of Arkansas biomass expert, sees landfill refuse as a source of new alcohol fuel.

"The facts show that it's really no problem," said former Senator Birch Bayh, who, as chairman of the Alcohol Fuels Commission, has been one of the nation's leading alcohol advocates. "The developing nations, when they need starch, don't buy corn, they buy wheat. Our alcohol industry does not take that kind of product away from starving nations. Can you imagine what it would do for the developing nations if we were able to get out of the crude-oil market?"

But the concern over food is more complex than just the diversion of the present corn crop to fuel. And Lester R. Brown, president of Worldwatch Institute, argues that if farmers can produce both food and fuel crops, the price of alcohol will determine their planting decisions—they'll plant whichever is more profitable, probably fuel corn instead of wheat—and thus fuel prices and food prices will become inextricably linked. The magic of alcohol, to Brown, is just sleight of hand: no matter how you add up the figures, it is still a matter of turning food calories into fuel, and somebody will have to pay. "The stage is set," he wrote in a paper that has achieved considerable notoriety, "for direct competition between the affluent minority . . . and the poorest segments of humanity."

A splash of the alcohol action

Today, however, the competition seems to be mostly between various American entrepreneurs for a splash of the alcohol action. Farmers and the producers of farm-community stills such as Al Mavis don't wish to see the entire industry absorbed by large corporations. Both Mr. Mavis' business and his philosophy would be well served by the construction around the country of several thousand plants the size of his rather than several huge centralized facilities. George Stone of the National Farmers' Union would also like to keep the industry down on the farm, as it were: "It would be our preference that no retail dealer could purchase alcohol fuels from anybody but a farmer, or a farmer-owned cooperative."

In contrast, Richard Burket believes in the economies of scale. He is the vice president and assistant to the chairman of Archer Daniels Midland, a large grain-processing company based in Decatur, Illinois, which produces about 70 million gallons of alcohol fuel per year and sells much of the alcohol used nationwide in gasohol. (The demand has been so high that until recently the United States was importing alcohol from Brazil at record levels.) The company is expanding with determination.

"Last year we purchased the Hiram Walker distillery in Peoria," Burket says. "We are constructing a new distillery in Cedar Rapids, Iowa. By the end of 1981 the three plants together will be producing 240 mil-

At Emert's research center, Deborah Briggs inspects enzymes that can convert cellulose into alcohol.

Researcher Linda Kirby feeds chicks that may grow up on byproducts of waste alcohol production.

lion gallons of power alcohol per year." Another plant will probably be built in Iowa, this one to produce 200 million gallons a year, possibly by 1983.

"We're in the learning curve of industry," Burket adds. "The whole power alcohol business is less than three years old. You can't tell me Americans can't develop new innovations. That's what is so exciting."

The towerlike distillation columns on Jamie Jacobson's still are six inches in diameter; they are 15 inches through in Mavis' apparatus; but in the Archer Daniels Midland plant the columns are nine feet in diameter and six stories tall. It seems, in that plant, as if one has walked from a grove of slender pine into stands of giant sequoia, where the boles of the living wood dominate human scale. Here the columns lift without taper into a roaring foliage of metal mesh and tubing, but the domination of size is the same. Burket has no trouble, in this setting, comparing the future role of large companies like Archer Daniels Midland with that of farm-size units.

"The small still is like having your own fruit-drying stuff or your own wheat mill," he says. "It's self-sufficiency. But you're not deluding yourself that you couldn't buy cheaper in the store."

Some large oil companies have called alcohol a false hope, and see more potential in refining gasoline from coal, but alcohol is the only major alternative fuel already in commercial production and use. For all its esoteric and almost magical connotations, the making of alcohol fuel from garbage and other waste is probably closer to commercial reality than the production of gasoline from coal, a process which promises to leave a wake of widespread environmental degradation on a local and worldwide scale without offering a permanently renewable energy solution. Alcohol proponents like Richard Burket point out that most of the facilities built to produce alcohol from corn can also be used to distill the wastes later.

The future of alcohol fuels is probably tied, as Burket suggests, to that old American smelting pot, the marketplace, but we're probably going to have the chance to buy more and more of it. It seems likely that alcohol will make up a significant proportion of our fuel supply in ten years, particularly if gasoline prices start rising again. The cautious optimism of agencies like the General Accounting Office is regularly reinforced by news reports of technological advances in alcohol production. National Distillers, for instance, recently announced the discovery of a new fermentation technique which cuts the time required to turn corn slurry to alcohol from 72 down to two hours. In announcing plans to build a $100 million plant, National boasted that it would need no goverment help to make the fuel profitably. And it is possible that the new Republican administration, to which Holmberg appealed so eloquently, will encourage alcohol production with more vigor than the Democrats. Senator James McClure of Idaho, the new chairman of the Senate Energy Committee, has been an alcohol proponent since his college days, when he added the stuff to regular gas to make high-test for his Chrysler.

And simply in terms of attitude, alcohol development is a bright spot in the energy futures fog; there's a rambunctiousness, a zest here, that is shared neither by those who call for sacrifices in the name of conservation nor by the oil and coal fuels promoters whose talk of environmental tradeoffs hints at sacrifices in the name of production. The people of the alcohol business, whose enthusiasm bridges a huge political spectrum, seem to possess a good-humored confidence that what they are doing is not only going to solve the energy crisis, it's going to be fun.

Back in Springfield, Illinois, Al Mavis, that old bulldog of an entrepreneur, set up a little demonstration to show that alcohol added to gasoline helps the entire mixture burn more cleanly. To this end he placed three pie pans filled with gasoline, alcohol and a gasohol mixture on a table and ignited them. The burning gasoline filled the room with smoke and floating fragments of black ash, threatened to set off fire alarms and automatic sprinklers, and resulted in the immediate departure of the secretary. Pointing to the cleaner flames of the gasohol mixture and the pure alcohol, Mavis grinned with appreciation.

"People say, 'Wait, that's not scientific'," he said. "Hey, we know that, but it works."

Al Mavis gives a demonstration to show (from left) that alcohol and gasohol burn cleaner than gasoline.

By Frank Getlein

Where homework might be dance or music or theater

At the North Carolina School of the Arts, students and faculty hone their talents with practice, practice, still more practice

Barbara Bennett, poised between dance and algebra classes, personifies NCSA's balanced curriculum.

A couple of years ago, the Austrian state television system sent a small crew over here to do a short—less than an hour—feature on the arts in America, with the built-in point that the United States, as a society, did things in the arts that Austria, for all its centuries-old traditions, might well copy.

It was a show, given its time and scope, that few Americans would have conceived. Yet the young Austrian producer, Gabrielle Flossmann, had no doubts and plunged in. She roamed from coast to coast filming an interview with Livingston Biddle, chairman of the National Endowment for the Arts, the scene in San Francisco, and Manhattan's weekend bookstalls on Fifth Avenue and in Central Park. She later edited her footage brilliantly and came up with a dazzler.

In all her combings and accumulations of what's what and where in the arts in America, Flossmann chose only one center of learning for inclusion in her whirlwind survey of the best we've got: the North Carolina School of the Arts (NCSA). North Carolina? Yes! Not in the Raleigh-Durham-Chapel Hill university complex and not in the Charlotte neometropolis, but in the modest Piedmont twin-township of Winston-Salem, widely known for giving its name to two brands of cigarettes, both of local manufacture.

Dance students submit their muscles and tendons to a morning wake-up in the corridor before 8:30 class.

There are two basic reasons why a Middle-European television producer interested in the arts might have chosen the NCSA. First, from its early years, the school's students and its faculty and alumni in affiliated professional companies like the North Carolina Shakespeare Festival have toured Europe, collaborated with European groups in joint performances abroad and in North Carolina, and run an annual International Music Program (primarily to enable Americans to perform overseas and open, by audition, to any talented student). Besides all of this and, in part, as a result of it, for the last ten or a dozen years NCSA graduates have been turning up in the chairs of European orchestras and in the corps of European ballet companies.

The second reason is simply that the school is good. Many Europeans know that from having seen its performances on tour. It is no less clear to someone watching the students and graduates in action on their own home ground.

The author wrote on the Armand Hammer art collection for SMITHSONIAN *in October 1980. His forthcoming book,* The Impressionists, *will be published next spring by Harry N. Abrams.*

Photographs by Richard Howard

Dance student Jennifer Hartee works independently in a studio designed by the dance faculty members.

Student dancers like Janel Cragie spend three to six hours a day rigorously practicing on their

In an effort to find out why—to see how a school of the performing arts could get so good so fast—to see, also, how you go about teaching the arts effectively, I recently spent the better part of a week on the NCSA campus. I began my days when the students did, at 8 or 8:30 A.M., and where they did, in the classrooms, rehearsal halls and mirror-lined dance studios. I lunched with the deans of the several divisions, had dinner, when I had it, with faculty, and spent my evenings either at performances or rehearsals of the affiliated companies (in addition to the Shakespeare Festival, they are the Piedmont Chamber Orchestra, the North Carolina Dance Theater and the Carolina Scenic Studios). I watched the work of the least well-known—and the NCSA's most overwhelmingly successful—department: stage design and stage management (it is officially known as the School of Design and Production).

From this total immersion, I emerged with a profound respect for what the NCSA is doing, a lively admiration of the work of the cooperating professional companies, an understanding of the endless proliferation of aspects and activities of the enterprise and, finally—at the heart of it all—some grasp of how the school works in its essentials: the imparting of per-

own, in rehearsals, or, here, in class. Practice makes perfect: many alumni dance professionally.

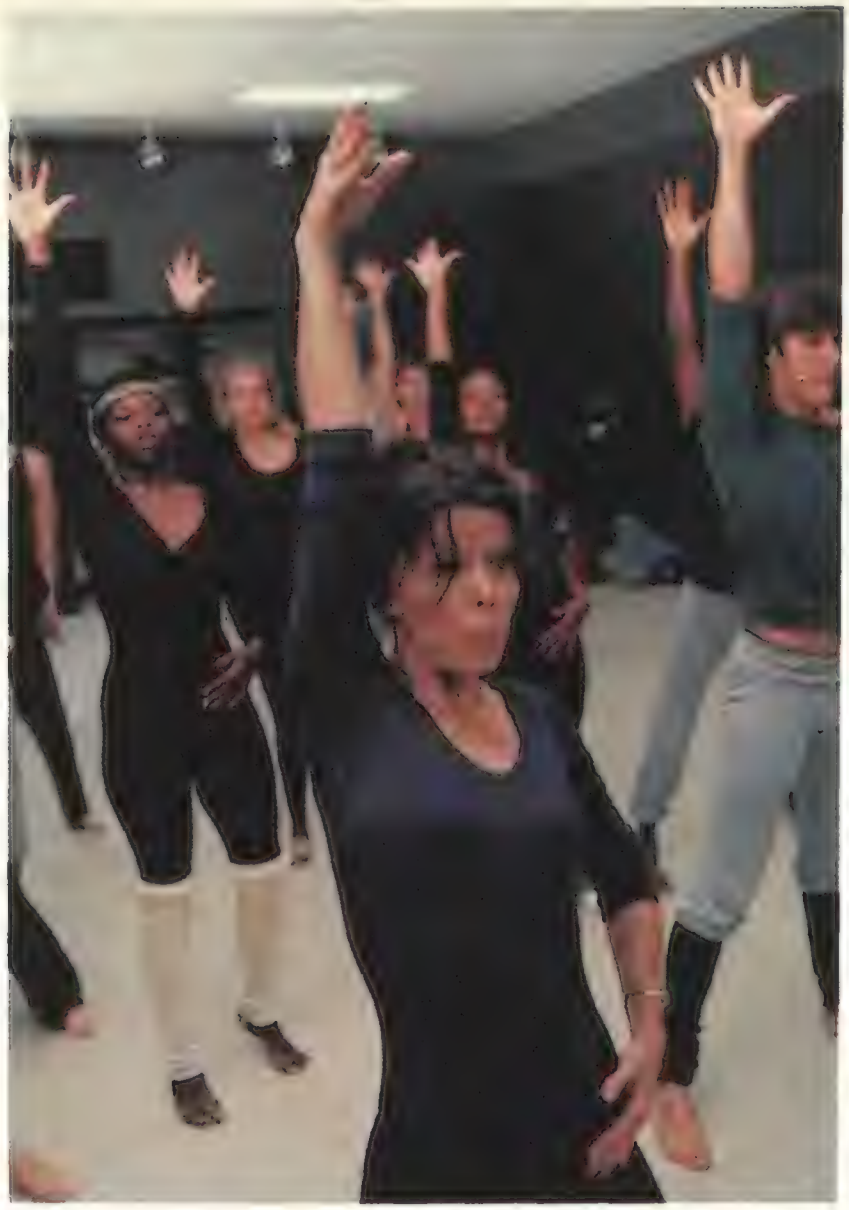
formance skills from the experienced and talented to the talented and inexperienced.

That almost mystical transfer I saw taking place before my eyes in the major performance areas—dance, music and theater. Training in design and production doesn't yield its mysteries so readily to the short-term visitor, but with all four departments the record speaks for itself: a record of high alumni employment on Broadway, in regional theater and in international opera and ballet from the Metropolitan to the Netherlands Dance Theater. In addition, the affiliate company of the School of Design and Production—Carolina Scenic Studios—has almost as much regional work as it can handle, creating and constructing stage designs for many other theaters in North Carolina and nearby states.

Those "affiliates" offer a good way of understanding how the NCSA operates and why it has achieved its remarkable record in the real world of the performing arts. Based in Winston-Salem (or nearby High Point in the case of the Shakespeare Festival), the companies tour intensively, more within the state than out of it. Last year, for instance, they gave five times as many performances in North Carolina as they did nationally. This does a number of things. It provides the

In class, Maurice Robinson's face registers intense concentration required to discipline the body.

As a theater student, Lisbeth Jetton must take dance classes, too, which aid presence, suppleness.



Following the lead of their dance teacher Mollie Murray (foreground), theater students reach high.

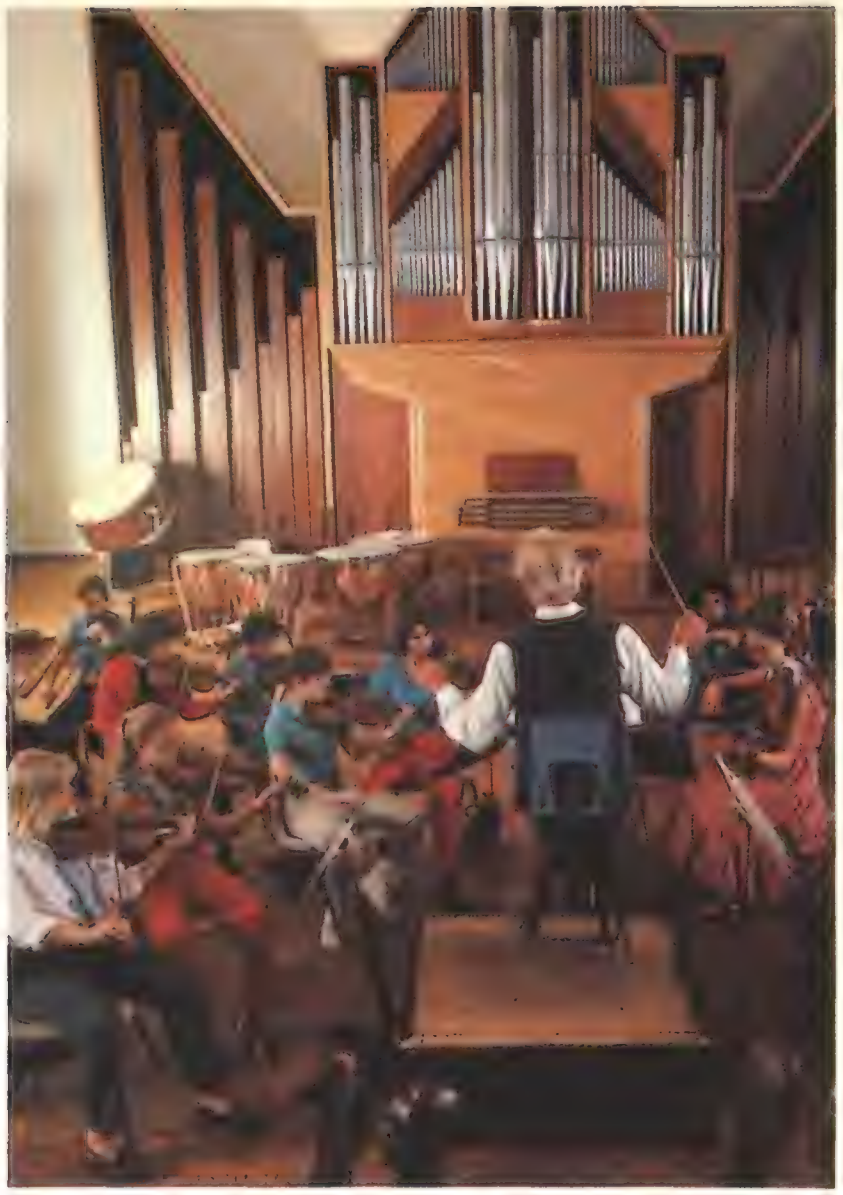
professional equivalent of a graduate school for graduates who want to stay around, although that is not a principal purpose. It provides North Carolinians with opportunities unparalleled elsewhere in the nation, on a comparable basis, to experience quality music, dance and theater regularly. In Bernard Berenson's venerable formulation of the purpose of art, this is life-enhancing—as proper a function of state government as, say, health care or highway maintenance.

From the point of view of the first responsibility of any school, the education of its students (the NCSA offers a fully accredited high school diploma and Bachelor's degree), the affiliates provide what is as essential to students of the lively arts as it is to audiences: regular experience of first-rate professional performance. One may conclude that in the arts, at least, familiarity feeds attempts.

The NCSA also has a heavy schedule of student performances, both on campus and on tour. In addition, there is Applause, the student employment service. While most such bureaus are strongest on baby-sitting and bartending, with seasonal flurries of snow-shoveling, Applause provides its customers with entertainments: a juggler, a pair of mimes, a string quartet or the very popular jazz ensemble. All told, the students presented almost 500 performances last year to a total audience of 135,449. As the song says, "That's entertainment." As the joke says, "Hey, lady, how do I get to Carnegie Hall?" "Practice, young man, practice." In North Carolina they might add: "Performance, young woman, performance."

Practice and performance, between them, are the golden essence of the NCSA, which came by its bias honestly enough. The school is, to a large extent, the creation and almost entirely the original dream of a performer and composer, the late Vittorio Giannini, an expatriate Italian who wanted nothing but to in-

Theater sophomores use adapted screenplay of Bergman's *The Seventh Seal* for a class workshop.



Conductor and faculty member Peter James Perret rehearses the school orchestra's string section.

Director Duncan Noble evaluates student singer Davenia McFadden as she belts her song to a mirror.

culcate some of his homeland's artistic virtues into his adopted land. Second in importance to NCSA's conception was the state's then-governor, Terry Sanford, now president of Duke University and possibly the most intellectually active governor since Connecticut's Wilbur Cross or even Virginia's genuine genius, Thomas Jefferson.

In the early 1960s Sanford was promoting the idea of a state-subsidized "conservatory," as was Giannini. The two got together, the idea was expanded to cover all of the performing arts, legislation was written, introduced and—amazingly—passed. Part of the legend of the NCSA—and part of the state's legislative record—is the moment when a conservative rural legislator, referring to the snide, anticulture chuckles being exchanged, gave an impassioned speech in favor of the bill, concluding with a bellow: "If there is going to be toe-dancing, I want to be there!"

A million-dollar phone bank

When the bill passed, the question of a school became not if but where. Winston-Salem had strong claims merely on its record in the arts (SMITHSONIAN, January 1979). But, in the nature of such things, there was a statewide competition, informal and to be decided by a circuit-riding committee of the legislature. Various cities made various promises. In the two days before the circuit riders rode into Winston-Salem, an impromptu group set up a phone bank and raised a million dollars in cash, pledged absolutely to the new school. There was an abandoned high school with acres of land around it which the city would donate. Then, thanks to the blandishments of both the Winston-Salemites and the gubernatorials-legislatives, the Ford Foundation, in the persons of MacNeil Lowry for arts and president Gerald Heald, came in with a million and a half. (At one point in the negotiations, or so the story goes, Heald asked a Sanford aide what the Governor proposed to do if the foundation didn't come through. Sanford's relayed reply: "We won't invite 'em to the opening.") Everything fell into place. Winston-Salem got the school, which has flourished, growing from about 250 students at its opening in 1965 to some 650 this year. Roughly half of them come from in state and half from out of state, including out of country.

The original high school building has been paralleled by a new contemporary structure and the two, joined by a Piranesi-like system of stairs and stretched canvas coverings, work well together visually and functionally. At the foot of the mountains, they unexpectedly suggest something of the sea. There is also a student union type of building, complete with cafeteria, post office and services of the usual kinds. Al-

Julio Sotolongo stretches his mind and body before dance class with some warm-ups and Dylan Thomas.

though the campus contains plenty of unused acres, it has expanded to acquire a row of light industrial buildings across the street from the main gate—a laundry and dry-cleaning plant, a truck salesroom and service garage, others—to serve as the scenery-building center and headquarters for stage design and production. On the campus proper, there are dormitories for all students, except some living-with-their-families residents of Winston-Salem or its environs. Incidentally, in the dormitories at the NCSA, the men live on men's floors and the women on women's floors. Experiments and "pushing the boundaries outward" are confined to what goes on onstage.

In the course of my normal work schedule, I spend a certain amount of time on campus at colleges and universities. My days at the NCSA were the first in which I saw no—absolutely no—students lying about, propped up by the architecture, supine on floors or staircases. I make no judgment on the difference, but merely note that there is a difference. In most schools that I visit, there are drifts of students lying about anywhere you look. It may well be that lying about is a good thing for students to do; opportunities for thinking are perhaps enhanced by assuming the classical Bowery positions. Good or bad, those all but universal American student positions are not encountered at the NCSA. Its students gather in a corridor outside a dance studio, fall upon the floor and immediately go into exercises, rolling back and forth, flexing limbs, doing sit-ups, leg-ups, knee-ups, sitting cross-legged with hands linked behind heads, bowing one way, then the other. Drama students run over lines, changing stresses and timing and listening to themselves. Violinists do silent fingering in the manner of Trollope's Mr. Harding, Warden of Barchester. In those Carolina corridors, every day is like test day in other schools. In a special way, every day *is* test day.

From white knights to Agincourt

It is, of course, what goes on in the rehearsal rooms after the warm-up in the halls that counts. One evening at the Shakespeare Festival, I sat through *The Last Meeting of the Knights of the White Magnolia* and found it at least the equal of the Broadway production with Fred Gwynne, which I knew well, having seen it perhaps four times. I was not surprised at the excellence because that afternoon I had seen the director, Robert Murray, conduct a Shakespeare studio for juniors. The text was the opening speech of the chorus in *Henry V.* It's a remarkable speech, close to pure poetry. With it, the Bard invites his audience to turn, in their imaginations, the Globe Theater into the epic Agincourt battlefield on which the British vanquished the French in 1415. Murray had the

student address herself not to the whole class but to two members of it, sitting on a bench facing her. He raised a question: "How can you stretch out Henry's trip from England to 'the vasty fields of France'?" Answer: by slowing down the line. The actress did so and the voyage from Dover instantly became longer, perilous, almost exotic. The principle evoked was: You Know the Lines, Now Learn the Meaning.

The same principle was applied at a rehearsal of a student production of *The Robber Bridegroom*. The director of the senior students said, "You know the lines and blocking, now let yourselves go, move faster, play with each other, step it up, step it up, step it up." I saw here the opposite of the Army's classic "Hurry up and wait." I once made a three-year study of that principle in the Army. I concluded that it was the direct result of the terrorization of junior officers by senior officers and their overall ignorance of immediate, let alone more distant, plans. Hence juniors rushed troops about so they'd be in place several hours ahead of any possible call by the seniors.

Here, on the contrary, the director waited and waited and waited for the student actors to master their lines, master their blocking; only then came the hurry-up, built on understanding rather than programmed ignorance. For the first time, I fully understood the long-familiar urge of every professional production I've known to cut down the running time: it isn't just to bring the show in under two hours, it isn't just to slip through the often frightening pay scales of the stagehands' union. In fact, it is to run the parts of the play together—line upon line, scene upon scene, action upon action, strophe upon antistrophe—so that the whole moves smoothly and faster than life, holding the audience's attention, sustaining tension and building suspense.

"We are artisans teaching artisans," one of my luncheon companions had told me, and the third man had agreed. But there is a step beyond that. I saw it in dance. Duncan Noble, assistant dean, was taking a group through a familiar but complicated figure in which two lines cross each other moving respectively upper left to down right, upper right to down left. First, Noble concentrated intensively on one dancer. The movement, repeated throughout the cross, involved a leap, a step, an almost-fall forward. The dancer couldn't bring herself to almost-fall. She held back, keeping her head and torso upright. Noble then did the movement himself, had her try again, explained it carefully, showed her herself in the mirror,

To prepare for rehearsal of *The Robber Bridegroom*, one cast member, Kristan King, isolates herself to concentrate on the character that she plays, an unwed mother (p. 63) who is deserted by her lover.

Julie Flinchum intently absorbs high school English, monitored by a likeness of debonair Clark Gable.

On his way to class, freshman theater student Peter Hedges manages to practice juggling skill.

did it himself once more. She did it, almost fell, recovered, repeated the sequence.

Then, working the group as a whole, he urged them —as the directors had done with the theater students— to stop thinking about themselves and their steps, stop looking in the mirror. At a clap, he paired them off for the cross, sent them down in twos, face-to-face. The difference was astonishing. Suddenly there were smiles everywhere, faces smiling at faces, returning smiles. Suddenly for the spectator, practice had passed, performance had begun. I was watching the birth of a ballet.

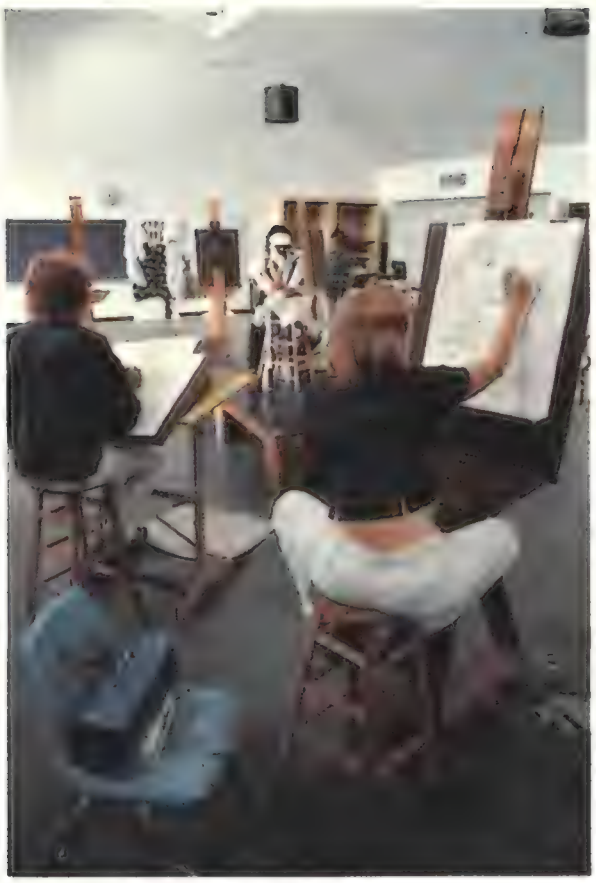
That happened again in music. Eric Larsen, who teaches piano and chamber music, was coaching strings during the afternoon that I spent a session in his studio. The piece was Beethoven's first trio, the players were Elizabeth Roberts on the piano, Peg Soon Whang on the cello, Claire-Jeanne Martin on the violin. Roberts belted the keyboard for the grand opening chord and the three women were off and running. I'm no musician but I knew they didn't miss a note. I enjoyed the performance thoroughly; to be sure, this was the first comfortable chair I'd sat in during two or three days of looking and listening. Also, there was the opulent feeling that you—I—constituted the entire audience.

With difficulty, I stifled the impulse to applaud. Good thing I did. "No," said Larsen. "Look," he said, "you know the music. You don't really have to pay that close attention to the notes on the page. Listen to it. The parts are playing with each other. So you should play with each other. The cello speaks to the violin; the piano comments. Look at each other. Play to each other."

Performance is the watchword

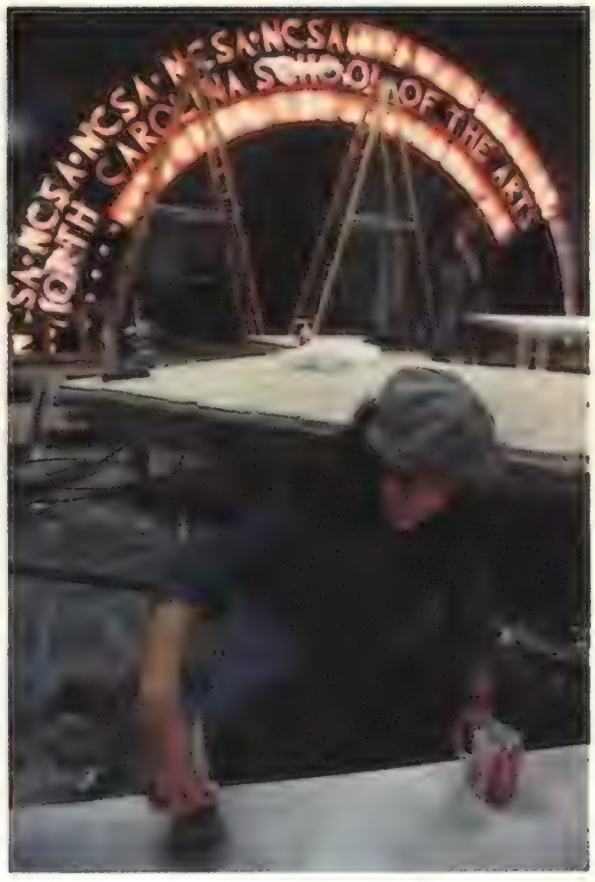
They played that section again and it was an entirely different, richer experience. The three musicians, too, had gone on to grasp at, if not quite grasp, the art that arises from artifice, from the artisan's practice of his craft.

Everything about the NCSA supports and/or intensifies the stress on performance. Students spend no time acquiring teaching credits, for example, as is the practice in many state university arts schools—and in private ones—across the country. The students are studying not to learn to teach but to learn to perform. This they do by performing under expert, word-by-word, note-by-note guidance; artisans teaching artisans the way they always have: by doing, showing, correcting. I don't believe I met a professional academic administrator on the premises, although reason tells me they must be there. The highest ranking member of the administrative staff is composer, pian-



Students in the high school visual arts class draw instructor, who poses.

Dancer Hunter Lamm is fitted in costume for NCSA musical, *Jazz Is*.



Dina Lipton, from school of design and production, paints scenery.

In a jarring scene from a rehearsal of *The Robber Bridegroom*, Wanda Tissaw (center) sings urgent plea to Frank Joyner (right) for him to help Kristan King (left) go in search of the father of her unborn child.

ist and conductor Robert Suderburg, who has been the chancellor since 1974.

Almost like a living organism, the NCSA has developed support groups at local, state and national levels, ranging from local families that "adopt" students to a national committee, headed by former Secretary of Commerce Juanita Kreps, which is raising capital funds to underwrite the school-at-large as well as its impending expansion into the Roger L. Stevens Center, a restored classic movie palace in downtown Winston-Salem. But the heart and strength of the NCSA are the passing on from teacher to student of the mysteries of the crafts that lead to art.

I had lunch one day with the dean of the School of Dance, Robert Lindgren. He reminisced about his nine years with the Ballet Russe de Monte Carlo, while I pointed out to his students that, through him, their student-teacher ancestry went back to Balan-

Company of the North Carolina Dance Theater, an NCSA affiliate, takes a deep, collective bow.

chine (whose work he had performed), Fokine and Nijinsky. Lindgren had a phone call and excused himself. It was an informal restaurant so I moved to the next table and the company of a graduate of the dance school, now a member of the North Carolina Dance Theater, with the wonderful—because so totally unballetic—name of Pearl Potts. I asked her why she hung around. She'd had offers, she said, but this way she could dance more and in more demanding roles than she could as a member of a larger, more prestigious corps. That night I took in the season's opening of the Dance Theater. Pearl Potts appeared in every one of the four ballets. She was not first dancer (the company doesn't really have one), but she danced in four entirely different styles in four major roles and performed beautifully in them all.

After the show I went back and said to Pearl, "I see what you mean."

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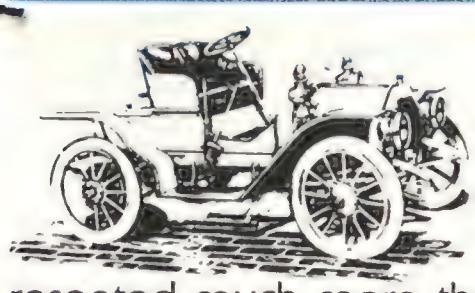

To the generations of Americans who grew up admiring them, our country's legendary automobiles represented much more than mere transportation. They were magnificent expressions of values we Americans have traditionally honored. They symbolized pride in craftsmanship, brilliant engineering, beautiful design, and a spirit of freedom and adventure that mirrored our national temperament.

To own one of these mechanical marvels was the cherished dream of millions. Just having one parked in the driveway was a source of incomparable pride. But more importantly, these classic cars gave wheels to our longings. They gave us the freedom, whenever the spirit moved us, to answer the call of the open road with speed, power and luxury at our command.

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(Continued on bottom of next page)

Cadillac

The 1909 Cadillac "30" Tourer. 1909 was the year in which Cadillac was acquired by the newly formed General Motors Corporation. This car, named for the courageous French explorer and founder of the city of Detroit, had already blazed new automotive frontiers by becoming the first American automobile with interchangeable parts. Now, in 1909, it had been chosen to become the innovator and luxury car of the G.M. line. This "30" Tourer was quite deluxe for its day, with such advanced features as doors, optional top, and seating capacity spacious enough to accommodate five people.

Replica above shown actual size.

(Continued from previous page)

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(Continued on bottom of next page)

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The 1929 Cord L29 Cabriolet. Sleek, low and long were the lines of this first Cord automobile. Unveiled at the 1929 New York Auto Show, the L29 pioneered the long, low look that was to become popular worldwide. The substantial vertical bars of its slightly V-shaped front grill contributed an air of importance to the otherwise flashy body design. Powered by a Lycoming straight-8 engine, the L29 was the first frontwheel drive American car to gain public acceptance. The L29 was available in both closed and open models, and its design won over many former buyers of true sports cars.

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By Julia Markus

Romare Bearden's art does go home again—to conquer

Born in North Carolina and raised in Harlem, this gifted artist brings to life the world of field hands, mill workers, jazz musicians

The American South is honoring a native son. One who was born in North Carolina, raised in Pittsburgh and Harlem, went to school at the Sorbonne, and became, through a long and variegated career, a distinguished artist. A major retrospective exhibition, "Romare Bearden 1970-1980," sponsored by Philip Morris Incorporated and the National Endowment for the Arts, opened in October at the Mint Museum in Charlotte, North Carolina—the artist's hometown—and is now being seen at the Mississippi Museum of Art, in Jackson, through March 29. It then travels to the Baltimore Museum of Art (April 28-June 14) and the Virginia Museum of Fine Arts, in Richmond (June 30-August 9).

When speaking of Romare Bearden, the temptation is to say "a great black American artist." The subject matter of Bearden's collages certainly is black. The folk of Mecklenburg County, North Carolina, that he remembers from early childhood and from summer visits to his great-grandparents, the jazz musicians and tenement roofs of his Harlem days, the Pittsburgh steelworkers, and his reconstruction of classical Greek myths in the guise of the ancient black kingdom of Benin, attest to this. So do the artist's sensibilities.

Today, at 66, he remains active with the Cinque

Far-off train intrudes on *Sunset Limited*, evoking North Carolina where artist spent first 14 summers.

Gallery in Manhattan, which he helped found in 1969. It is one devoted to showing the work of minority artists. "Cinque" is not a fashionable Italianate appellation, Bearden is quick to point out. Cinque was the African prince shipped with his people to the sugarcane fields of Havana in the late 1830s. This 19th-century Ulysses took over his captors' ship, the *Amistad*, and embarked on an odyssey that included a stop in New Haven and a Supreme Court decision before he returned to what is now Sierra Leone.

Then why not call Bearden a black American artist? One qualification. Ultimately his art is beyond categorizing. "What stands up in the end is structure," he says. "What I try to do with art is amplify." If he were just creating a picture of a farm woman he remembered from down home in North Carolina, "it would have meaning to her and people there. But art amplifies itself to something universal."

Today, Romare Bearden's studio is in an office building in a rather dilapidated zone of Long Island City, just across the East River from Manhattan. He greets me at the doorway wearing denim coveralls and a welcoming smile. He is powerfully built, stocky and bald. His old friend Albert Murray, the novelist, has recalled that upon seeing Bearden for the first time in Paris years ago, he thought "it must be either Khrushchev or Jean Genet" (p.76).

A black artist who is white-skinned, a North Carolinian who was raised in Harlem—the uncommon abounds in Bearden's life. There's not even a Horatio Alger story here. The Harlem that Bearden knew was the Renaissance Harlem of the Twenties, the heyday of jazz. His father was a sanitation inspector. His mother, Bessye J. Bearden, was a black activist, an astute businesswoman and an important political force in Harlem. She got things done. Romare was an only child. His parents wanted him to be—what else?—a doctor. But Romare had other ideas.

Many of them. He graduated from New York University in 1935 with a degree in mathematics and then decided, after a year and a half of study with George Grosz at the Art Students League, to become an artist. Then came World War II. He served in the Army. After the war, Bearden was intent on getting to Paris on the GI Bill. There he studied philosophy at the Sorbonne. He met artists. Became a friend of Brancusi. Matisse told him he rarely painted more than three hours a day, but an intense three hours every day. Pointed advice to Bearden, who, in the land of art, was doing no painting at all. "I really enjoyed myself

The author, who wrote on Jasper Cropsey in the January 1980 SMITHSONIAN, *has just completed a new novel,* American Rose, *to be published this month.*

Collection, Mr. and Mrs. Reuven Merker

Collection, Françoise and Harvey Rambach

Miss Bertha & Mr. Seth, North Carolina country folk, pose with easy dignity for a "family" portrait.

Up North, a Pittsburgh boardinghouse scene, *Mill Hand's Lunch Bucket,* is objectively recorded.

in Paris," he reminisced, although he stayed only about a year. And when he returned to New York in 1951, his main concern was how to get back.

Friendly with musicians such as Earl (Fatha) Hines, Cab Calloway and the late Duke Ellington and Fats Waller, he decided to try to write a hit song. He wrote one, *Seabreeze,* first recorded by Billy Eckstein. So he made money. And he drifted. He resumed a job with the city's Welfare Department (intermittently, for the next 14 years, he would support himself as a case worker with the gypsy community until able to support himself by his art). He didn't paint.

Then, fittingly for the Francophile that he was, he chanced upon Eugène Delacroix's *Journal* and discovered that he had copied the Old Masters much of his life. Bearden began to copy as a learning—or relearning—process. He worked in gouache on brown paper. Few of these works remain. He also studied Chinese art and calligraphy with a man he met, a Mr. Wu. "Making money didn't get me back to Paris. I should have been painting to get back." And indeed it was only after he resumed painting full time in the mid-1960s that he was able to return to Paris fairly regularly until 1975; after that Bearden and his wife Nanette began to vacation on a property belonging to her family on St. Martin in the Caribbean.

Are things any easier for the black artist today? I ask at the end of this visit, and Bearden, typically, goes from the plight of the black artist in particular to artists in general.

"In the past two decades there's been more interest in black artists. The fact is, ironically, that it was the Depression that did a great deal to foster the arts in the country through the WPA [SMITHSONIAN, Octo-

Private collection, West Redding, Connecticut

In *Sunset-Moonrise with Maudell Sleet,* boyhood ally from the South becomes a powerful, mythical figure.

ber 1979]. What is needed now is something like that again which serves the individual creative artist. The malfunction of all the fund-dispensing agencies today is that they serve the big institutions, not the individual choreographer or author or painter.

"Granted, everybody isn't going to be a great painter. But WPA was put together by practical men. Let the artist do art. Now artists are bogged down with proposals. Look at Cézanne. For the first 20 years any teacher would say 'quit!' A neurotic like him couldn't write a proposal. WPA was a much more practical thing. What art does for the sensibilities of Man needs to be supported."

I call Bearden to set up a second appointment to discuss specific works to be included in his latest retrospective. He invites me to a screening of John Cassavetes' film, *Gloria,* which opens with a series of his watercolors showing the New York City landscape turning from evening to nightfall. He's there in his ubiquitous coveralls and, this time, a French beret. When his work flashes on the screen, the knowledgeable audience cheers. Ah, if only the graffiti on the subways and the rocks in Central Park could be redone—by Romare Bearden.

The bedrock of Bearden's art is structure, but the heart of it is subject matter. On the wall of his studio is a list of significant events from his past. A well of experience from which he can draw. The work that comes from his earliest memories of North Carolina is poetic and evocative.

We look at *Sunset Limited* (pp. 70-71) together. In it, as in many of these collages, a train passes in the distance. It is the artist, passing through. "Time is a pattern," he tells me, "as in T. S. Eliot's *Four Quartets.* You can come back to where you started from with added experience and you hope more understanding. You leave and then return to the homeland of your imagination."

The idea of homecoming fascinates him in Homer's *Odyssey* as well. The paintings of this series are less lyrical, more classical, as one would expect. His Ulysses is a black one, portrayed as if the hero came from ancient Benin.

Muses from the "marginal" life

Sunset-Moonrise with Maudell Sleet (left) is another return to Mecklenburg County, North Carolina. Who is Maudell Sleet? I ask, as if the power of the image of the strong woman looming over her small green universe were not overwhelming to the viewer. "She was a woman with a green thumb," Bearden answers. "I remember her."

He also remembers Miss Bertha and Mr. Seth from the work of the same name (p. 73). "My grandfather had houses he rented out. Miss Bertha'd make biscuits and butterfish and eat with my grandparents." Bearden tells me of the day that Mr. Seth missed the truck he always jumped on to get to work. If young Bearden and his friends hadn't brought him food, he wouldn't have eaten that night. "Some people," he says, "live so marginally."

The lesson of the marginal life was one he also learned when he lived with his maternal grandparents in their Pittsburgh boardinghouse near the steel mills. This was in the Twenties when blacks migrated northward in numbers to find better pay. In *Mill Hand's Lunch Bucket* (pp. 72-73), the continuity of the past is reflected, according to Bearden, by the portrait of the relative on the wall. The steel mill fumes outside the window. Bearden recalls trying to get a summer job. "When the door to the mill opened, it was like walking into hell."

Farewell Eugene, another in the "Pittsburgh Memories" series, is a collage of great emotional as well as formal complexity. We look at it for a long time. Eugene was a boyhood friend of Romare's who lived

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with him and his grandmother after she found out Eugene's mother was a prostitute and that the boy was living in a brothel. She discovered this because he had made drawings of brothel life that the grandmother recognized and immediately consigned to the flames. Before that, though, these drawings had so impressed the young Romare that he asked Eugene to teach him to draw. Which Eugene did, becoming Bearden's first teacher. (One should note, by the way, that Bearden generally comes to art through life; he has had less than two years of formal art training.)

Eugene was a sickly child and died young. A 13-year-old Romare was a pallbearer at the funeral. The image of intense grief at the cemetery is lightened by pigeons flying free in the clear sky. And an old woman in black overlooks rather than participates in the scene. "The old Indian woman was my great-grandmother," Bearden says. "Eugene kept pigeons. He asked me to cut the pigeons loose once he had had his lung hemorrhage. But I was going to keep the pigeons for myself. Somehow the old woman knew. 'Didn't you promise Eugene something?' She hit me with a cane. Indians keep their promises. So I took the pigeons across the river and turned them loose."

We wrap up this session by looking at some of Bearden's remembrances of jazz in Harlem. At *Connie's Inn*—Connie's was a night club next to the Lafayette Theatre. Bearden lived on that same street. And *Wrapping It Up at the Lafayette* (opposite). At the end of the evening every performer from every act would come out on the stage for the finale. Here we are, in Bearden's studio, looking at some of his many masterworks of the last decade, each one a performer on a different kind of stage.

Romare Bearden, 1970-1980. The artist thinks it over. He says, again, there's a theme of homecoming running through all of these works. Then he looks at the pictures as if he is gazing over a field, and tells me, "The artist comes into the world to set it right. What we face is chaos. There's a symbol for it in the great dragon the hero has to destroy. There's an elementary chaos in the world. The artist puts things in order."

His remarks are punctuated by the shake and roar of a train on the elevated tracks right outside his window. The passing "El" is something Bearden is attuned to in life as well as art. I mention this to him—that though his art is order, he seems intent, in the choice of his studio, to ensure that he daily faces the noise of the street, that he seems to insist on not forgetting the chaos outside his esthetic realm. He pauses, then says with a smile, "We have to deal with the dragon every day."

And that Romare Bearden does, every day, in his studio, from nine-thirty until six. I tell him he is now working longer hours than Matisse. "What I'm doing is not discipline," he insists. "It's not that at all. You paint out of necessity. This is what I need to do."

Bearden, 66, once described his work, with typical humility, as "putting something over something else."

Harlem Renaissance jazzmen influenced artist's style, as in tapestrylike *Wrapping It Up at the Lafayette.*

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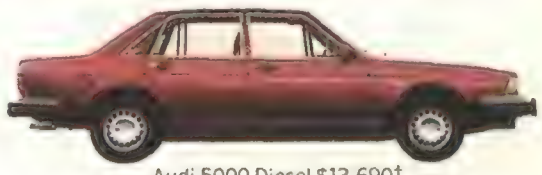

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In 1798 this was the bustling Coffee Room at Lloyd's. It was frequented so much "by shipmasters and others interested in the sale of vessels" that it inevitably became known as the Captains' Room.

By Timothy Green

If you name it, Lloyd's of London may well risk it

This three-century-old British institution stands prepared to insure—for a price—everything from supership to shapely legs

When Hurricane Allen went rampaging through the Gulf of Mexico last August, it was not only the people of Texas who waited nervously to see if it would roll on to devastate their homes. The storm's progress was eyed with equal attention by several thousand men and women living far from its path, whose own personal fortunes were, nevertheless, also at stake. They were the underwriting members of Lloyd's of London, the world's largest single insurance market. "Everyone was waiting for Hurricane Allen to go through Texas," said a broker. "It would have been as bad for us as Hurricane Betsy in 1965 or even the San Francisco earthquake in 1906."

The hurricane, of course, was only a passing chapter in an endless roll call of mayhem for which Lloyd's picks up the tab. Just a few weeks later, when the Dutch cruise liner *Prinsendam* caught fire, the daily entry in Lloyd's Loss Book (which is still written with quill pens) noted: "Prinsendam 8566 gross registered tons . . . motor passenger vessel Vancouver to Singapore on cruise. Caught fire in engine room with 320 passengers, 120 miles west of Cape Spencer, Alaska, October 4 . . . reported all . . . rescued."

Color photographs by Adam Woolfitt

This is now the "Room" at Lloyd's, crowded with underwriters, the brokers who are their contact with the insuring public, and cramped "boxes" that the underwriters use as their offices.

Lloyd's of London

All is not confusion (it only looks that way) in an insurance underwriter's box at Lloyd's. On

Indeed when you start investigating Lloyd's, you swiftly realize that there is scarcely a catastrophe, even in America, that does not cause reverberations in the City of London. If the winner of the Kentucky Derby breaks a leg, if frost devastates the Florida orange crop or hailstones ruin California's vintage, if anyone had stolen one of Picasso's paintings on their way to and from the great show in New York, if James Cagney does not live long enough to finish filming *Ragtime* or if Bjorn Borg breaks his arm at Forest Hills and can never play again, then Lloyd's pays out.

More precisely, the underwriters at Lloyd's pay out, for this venerable British institution, almost 300 years old, is not actually an insurance company. You do not insure *with* Lloyd's, but *at* Lloyd's. Really, it is an association, almost a club, of underwriters representing 446 syndicates, whose members, all private individuals, accept insurance business for their own personal profit (or loss) and are individually liable to the full extent of their declared assets to meet the claims. The explanation of this was given by an employee almost a century ago, who told an inquiring woman, "Individually, madam, we are underwriters; collectively, we are Lloyd's."

Lloyd's is an imposing white stone building that might at first be mistaken for a modern church, in Lime Street in the commercial heart of the City of London. Here the underwriters are all gathered together in one great "Room," each ensconced in his "box," which is no more than a wooden bench with a cushion or two, a table piled high with papers and telephones, and a few files perched on shelves. There is a box for each Lloyd's syndicate and every one is crammed like a tin of sardines with six or eight underwriters, claims men and assorted staff. Newcomers sit in the middle of the box, while the senior underwriter, who presides over each syndicate, has the ringside seat where he can be buttonholed most easily by the brokers seeking to place the insurance for their clients. No underwriter deals directly with the insured; every risk is placed through one of the 265 firms of Lloyd's brokers. On a busy day between four and five thousand people are at work in the Room.

The great attraction of Lloyd's is the sheer variety of insurance that can be placed. Lloyd's underwriters are not just individualists but specialists. "Under one roof you've got just about every insurance genius for every class of business," explained a broker handling North American risks. Broadly speaking, about one-third of Lloyd's syndicates offer marine insurance, another third nonmarine (fire, property, personal accident and liability), with other groups concentrating on aviation and on automobiles. But under each of these general umbrellas are many specialties. A marine syndicate, for instance, may focus on supertankers, oil

Timothy Green writes frequently for SMITHSONIAN *from London. In November he told of Ronnie Biggs, "retired" to Brazil after the Great Train Robbery.*

the shelves are ledgers containing hand-written records of the syndicate's underwriting transactions.

rigs or even cargoes of soft fruit, while in aviation, syndicates specialize in such things as crop-dusting planes, gliders and helicopters.

One long-established syndicate, De Rougemont, which started in the late 19th century, covers the transport of diamonds, bullion and works of art. Among 30 syndicates that underwrite personal accident insurance, one offers cover to newly married couples for the extra costs if they should have twins. Another, headed by a jovial fellow named Bert Stratton, has insured not just the lives of Bing Crosby, Bob Hope, Danny Kaye and Frank Sinatra, but such splendid parts of a star's anatomy as Marlene Dietrich's legs (and Betty Grable's), Jimmy Durante's "schnozzle" and Elizabeth Taylor's eyes (p. 86). Stratton also gamely took a $6,000 premium against a whisky company having to pay a $2.4 million prize to anyone who captured the Loch Ness monster. Stratton stipulated only that the monster had to exceed 20 feet in length.

The art of the broker at Lloyd's is to persuade an initial or "lead" syndicate to take a piece of the action. There are only a handful of lead syndicates in

Using a swan quill pen, David Burling, casualty liaison officer, makes daily entry in the Loss Book.

Ian Posner (glasses on head), who specializes in marine war risks, confers with a broker proposing coverage.

Syndicate employee records details of an insurance risk (such as the amount of premium taken) in ledger.

each category (just eight set the pace on aviation), so the broker must woo them first. As you move around the Room, you can detect the lead syndicates' boxes simply by the anxious group of brokers hanging around trying to get the ear of the senior underwriter. There is no formal queue; each has to divine when it is his turn. The broker bears a "slip" on which the details of the insurance are set out. The senior underwriter peruses the slip carefully, debates a few points with the broker and proposes a rate at which he will accept part of the risk. If the broker accepts the terms, the underwriter "writes a line" on the slip accepting a share. Usually the lead will take between five and ten percent; seven and one-half percent on a $10 million ship, for example, means that syndicate accepts $750,000 of the cover.

Each syndicate has its own special initials to sign the line. This signature is always written with a fountain pen (or with quill pen by one or two) and does not change from generation to generation. Junior staff on each box constantly practice their syndicate's distinctive hieroglyph in readiness for the day when they will be promoted and can write a line themselves. With the initials of the lead on his slip, the broker moves to other syndicates, who, reassured by the lead's line, will normally pick up a slice of the business almost as a formality. Ultimately 15 or 20 syndicates may write a line before the policy is fully subscribed; many more may be involved on large risks.

This intimate approach to insurance is the secret of Lloyd's. "The broker's lips to the underwriter's ear enable a personal assessment to be made on each policy," explained an underwriter; "the 'jungle drums' in the Room often warn you if something is wrong."

A basic battle of wits

As you stand in the Room watching the ceaseless battle of wits between broker and underwriter, you quickly realize that in essence the basic system has not changed in several centuries. The cardinal principle of spreading the risk was well put by an Act of Parliament back in the days of Queen Elizabeth I, when the London insurance market was in its infancy: ". . . it cometh to passe that upon the losse or perishinge of any shippe," said the preamble, "there followethe not the undoinge of any man, but the losse lighteth reather easilie upon many than heavilie upon few."

The story of Lloyd's itself began in 1688, when a Welshman named Edward Lloyd opened a coffeehouse in Tower Street close by the River Thames. Lloyd himself was not an insurance man; he simply sold coffee, but as a way of establishing a regular clientele in the highly competitive world of the coffeehouse, in which most London businessmen con-

John J. Angerstein was "Father of Lloyd's"; his house became first home of Britain's National Gallery.

Famed Lutine Bell, seldom rung nowadays, is mounted above "caller's desk" on floor of the Room.

Part of a silver service voted to Admiral Horatio Nelson, this display stands in front of his portrait.

Courtesy Walter Judd, Ltd.

Cuthbert E. Heath created the modern nonmarine market at Lloyd's, thus expanding its influence.

ducted their affairs in the 17th and 18th centuries, he sought to make it a center of marine intelligence. For a little while he even put out a newspaper, *Lloyd's News*, filled with the latest word on ship movements. His coffeehouse quickly became the favorite venue of merchants, shipowners and sea captains and thus a natural haunt, too, of insurance brokers who made their living hawking round policies on ships and cargoes to anyone who was ready to subscribe for a share of a risk. Lloyd died in 1713, but the coffeehouse kept his name and retained its habitués.

By the mid-18th century Lloyd's Coffee House was the regular place for private marine insurance, just as the Jamaica Coffee House was haunted by people in the West Indies trade and Grigsby's by bullion brokers. The trouble was, however, that by the reign of George III some underwriters had become a trifle too reckless, and were ready to make book on all kinds of other activities (including the likelihood of the death of the King). This was more than their more serious-minded colleagues could stomach, so they encouraged a waiter at Lloyd's to set up his own establishment nearby and moved en masse in 1769 to New Lloyd's Coffee House, which became the real haven for marine insurance.

Coffee House to Royal Exchange

The move to the new coffeehouse was encouraged by a young underwriter named John Julius Angerstein (opposite) who had been born in St. Petersburg and had been sent to London by his father at the age of 14 as an apprentice to a merchant in the Russian trade. He went into marine insurance, and for 50 years was to be the most formidable figure at Lloyd's. In 1773, he arranged the move of New Lloyd's Coffee House into the more formal quarters of the Royal Exchange, which already housed the stock market and most broking activities of the City of London.

Angerstein and three other subscribers negotiated a set of rooms at the Royal Exchange, signing a 21-year lease at £160 a year rent. The insurance men forsook their coffeehouse to open their insurance market in rooms above the Exchange on March 5, 1774. The atmosphere of the coffeehouse, however, was not entirely lost. The owner of the New Lloyd's Coffee House, Thomas Fielding, and his head waiter were persuaded to come along to serve coffee and help run the place. It is a custom that has not been lost in the modern Lloyd's, where the doormen, resplendent in full-length scarlet and black cloaks (p. 89), are still known as "waiters" in memory of the coffeehouse days.

The move to the Royal Exchange marked Lloyd's arrival as a powerful City institution underwriting the merchant marine of a great trading nation. At the

Among the more spectacular "non-marine" insurance risks Lloyd's has underwritten are the bewitching eyes of Elizabeth Taylor, the overblown nose of Jimmy Durante and the shapely legs of Marlene Dietrich. It is somewhat of a distinction to have part of your anatomy insured at this historic and most respectable institution.

time, it was customary for the Admiralty to arrange convoys for merchant ships to protect them against brigands and the warships of hostile nations. The navy's help did not go unacknowledged. Lloyd's responded to naval victories by raising funds for the wounded. The naval commanders were presented with handsome silver plate, teapots and tureens.

Few did as well as Lord Nelson. After his first great victory at the Battle of the Nile, Lloyd's not only raised £38,436 (equivalent to about $2 million today) for the wounded and dependents of those killed in action but, at Angerstein's suggestion, voted Nelson £500 "to be laid out in plate." And following the Battle of Copenhagen in 1801, Lloyd's augmented the famous admiral's silver dinner service with another £500 contribution.

Lloyd's role in international maritime affairs was further strengthened in 1811 by the appointment of a worldwide network of agents in such ports as Madeira and Charleston, South Carolina, who reported back to London on the latest movements of shipping. These Lloyd's agents, of whom there are 1,300 today, became the eyes and ears of an unrivaled shipping intelligence system that strengthened the underwriters' hands because they were always in receipt of the latest gossip from every port. Their dispatches are still posted on bulletin boards in the center of the Room and their content is jealously guarded.

But Lloyd's does distill much of the information clattering over its Intelligence Department's telexes into a daily paper of shipping news, *Lloyd's List* (circulation 14,600), that has been going strong since 1734. Alex Haley, author of *Roots*, used these files of ship movements in tracking the slave ship that brought his ancestors from The Gambia. And Lloyd's *Shipping Index*, which started in 1880, provides an unmatched guide to the current worldwide movements of 21,000 merchant vessels.

For special announcements that immediately affect the entire market, the famous Lutine Bell (p. 84), which hangs over a rostrum in the center of the Room, is rung. Originally the bell belonged to a French frigate which later, as HMS *Lutine*, was wrecked in 1799 carrying a cargo of gold and silver, on which Lloyd's promptly paid the claim. During the next 60 years some of the bullion and the ship's bell were salvaged, and, because the claim had been settled, became the property of Lloyd's.

Throughout its first 200 years, Lloyd's insurance business was essentially all marine. But a century ago a marine underwriter named Cuthbert Heath (p. 85) decided the time had come to broaden the market. He started offering policies for burglary, jewelry, diamonds in transit, and for many other risks for which insurance previously had been impossible. Therein lay his importance.

Heath realized not only the potential in nonmarine insurance, but the wealth that was to be tapped by

offering extensive cover throughout the United States. Following his lead, Lloyd's really "discovered" America at the end of the last century. And just in time to win a real coup. When the San Francisco earthquake in 1906 landed insurers with the biggest claims they had ever faced, and many U.S. insurance companies defaulted, Lloyd's underwriters honored their own obligations in full, paying out around $30 million.

Such reliability established Lloyd's reputation across the Atlantic, and American business has been one of its mainstays ever since. Nowadays up to 30 percent of the nearly $5 billion in annual premiums paid to Lloyd's originates in the United States. The ability of the market to meet its American commitments was further strengthened in 1939, on the eve of World War II, with the establishment in New York of Lloyd's American Trust Fund, so that the underwriters could meet all U.S. claims regardless of what befell Europe.

The link between Lloyd's and North America is twofold. Not only is much business insured directly, but virtually all major U.S. insurance companies carry reinsurance at Lloyd's. "They cover themselves here against catastrophes," explained underwriter Peter Foden-Pattinson. "For instance, if they lose over $200 million on a hurricane, then they can claim on us." Such liabilities can hit Lloyd's hard. Hurricane Betsy in 1965 led to three consecutive years of losses on Lloyd's underwriting, as claims flooded in. Although all were met, the lean years following Betsy made the members realize that their rather closed fraternity was undercapitalized to meet huge modern claims. Before long, changes as significant as those wrought by Angerstein and Heath were afoot.

"To the last shirt button"

Throughout its history Lloyd's had been a male preserve, and the members of its syndicates had all been British. Those restraints were swept aside in 1970 when women were admitted as members, and again in 1974 when they could become brokers and underwriters. Anyone, anywhere in the world, can apply to be a member or "name" on a Lloyd's syndicate. The only provisions are that overseas names must prove they have assets of at least $350,000, can post an initial deposit of $60,000, and realize that they are committing themselves to unlimited liability against their declared assets if needed to meet a claim. That rule means what it says. "You are liable to the last shirt button," said an underwriter.

Such hazards have not deterred a host of new names signing on in the last decade. In Britain they include everyone from former Prime Minister Edward Heath to soccer stars and boxing champions. All told, there are now 19,149 from virtually every country in the Western world, with almost 1,300 from the United States alone. "Many American names have been attracted by the romance and prestige of being able to say 'I'm a member of Lloyd's,' " said Foden-Pattinson, who runs a syndicate of 489 names that includes wealthy widows from West Palm Beach, Florida, New York bankers, Antwerp diamond dealers, a woman lawyer from Toronto and a leading British thoroughbred owner. The average premium that each of his names can accept is around $100,000. In all, he can take up to $48.9 million in annual premiums.

Faith from the names—and hands off

Being a name, however, does not mean daily involvement in the bustle of the Room; each syndicate is headed by a professional underwriting agent, who expects his names to leave him severely alone. "My names must have faith in me, and they shouldn't question what's going on," snapped one underwriter. The underwriter's nightmare is the name who hears on the radio of a shipwreck or typhoon and calls up to see if his syndicate bears part of the loss. Such anxious names can at least take comfort from the fact that the underwriter himself is usually a name, so his fortune is at stake, too, and he is not normally going to squander their money on poor risks.

Moreover, for all its reputation for pioneering insurance, Lloyd's is not an open book. Underwriters often reject frivolous—even serious—prospects. They refused to quote last fall when Presidential candidate John Anderson sought a policy to indemnify himself if he failed to muster enough votes to qualify for federal campaign grants. The underwriters also investigate before accepting any insurance that does not ring quite true. When one syndicate was asked recently to cover the airfreighting of a large amount of gold from the United States to Switzerland, they agreed on condition they could approve the security arrangements. A former Scotland Yard detective was dispatched to Miami to discuss the technicalities. The clients met up with him beside a hotel pool, and at first declined to say where the gold was, or to whom it belonged. When he persisted, they allowed that it was gold coin and bars from Jesse James' bank robberies a century ago that had been buried in Montana. They had the treasure map and were about to dig it up. The Lloyd's investigator took the next plane back to London and no insurance was forthcoming (nor did anyone hear of the gold again).

Even on legitimate insurance, it is often no easy matter to agree on terms. What value, for example, do you put on a Rembrandt en route from Europe to America for an exhibition? Underwriter David Lin-

Ready for formal lunch, Committee Room, designed by Robert Adam in 1770, later was sold to Lloyd's.

nell, who specializes in the transit of works of art, confided that the rule of thumb is to take the last auction price for a Rembrandt and work that out in dollars per square inch; then you relate it to the size of the canvas being shipped. Modern art can be an even bigger headache. Linnell's syndicate once insured a work called *The Parcel* by avant-garde artist Christo for the journey to London for a show. An uninitiated British customs officer opened *The Parcel* to look inside—thus destroying the work of art. Linnell decided the cheapest way to meet the ensuing claim was to invite the grand master of wrapping, Christo himself, to London to re-create his package.

Lloyd's has not come through the complex hazards of modern insurance unscathed. Several syndicates have taken a record beating on computer-leasing in the United States, because new technology outdated many computers so quickly that leasing companies' customers broke their contracts at the first opportunity. The companies had covered themselves at Lloyd's against such cancellation, but Lloyd's underwriters had not foreseen a $400 million loss.

Also, in a major scandal, one syndicate collapsed with losses of more than $50 million after the underwriting agent had accepted too many doubtful risks, including property in the arson-prone South Bronx of New York. The names on his syndicate, who had to pay up to the hilt, even tried suing the committee of Lloyd's for negligence in not policing their underwriting agents more diligently.

The furor resulted in a full-dress inquiry into the structure of Lloyd's. Its recommendations will be incorporated in a new Act of Parliament. The draft proposes that Lloyd's be ruled by a council of 25, including, for the first time, several outsiders. They will have strong powers to keep the house in order. "The council will have real teeth to investigate and discipline members," says Lloyd's chairman Peter Green. More attention will be paid to keeping the international cast of names better advised on what is going on."

Some underwriters fear that the new code of discipline, which is really essential for a major financial institution, will put them in a straitjacket, stifling the entrepreneurial spirit that has won Lloyd's its international standing. But others are not discouraged. "This is the most stable insurance market in the world," said a broker specializing in American business, "and it offers continuity. Big U.S. organizations get a comfortable feeling from knowing that Lloyd's is already 300 years old and will still be here in 2081."

In uniform typical of Lloyd's Coffee House waiters, R. G. Horsley, doorman, stands solemnly at attention.

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Who said you can't improve on nature?

GTE

By Noël Vietmeyer

A rare bird with a mean streak and deadly kick

The formidable cassowary, almost six feet tall, is New Guinea's biggest native animal and is used to pay debts or to buy a bride

While surveying birds in the New Guinea highlands an American ornithologist, Thomas Gilliard, learned that one of the world's largest and least-known birds could be seen at a native homestead, where it was kept in a cage of eight-foot-high stakes. The bird, a cassowary, was regularly allowed out to feed in a nearby wood; it was led there and back by three old men who herded it with long slender poles. Knowing this, and unaware of the cassowary's dangerous reputation, Gilliard and a companion asked to have the bird let out of its cage, to photograph it. He described in his notebook what happened next:

"I did note that it was emitting from deep within its body a series of hollow-sounding groans and windy sighs. The bird moved deliberately, placing each foot carefully before picking the other up, like a stalking heron, as it headed for a banana grove through the medium deep grass. All of a sudden, the great bird turned and ran through the clearing toward a three-and-a-half-foot fence. On the far side of the fence a woman was carrying a bag of sweet potatoes. The bird seemed to head purposely for the portion of the fence nearest to her. It leaped with its great feet extended forward and struck the woman resoundingly with both of its weaponlike feet, then continued running.

Cassowary head is crowned by a casque, leathery helmet that protects it when charging through jungle.

"The native went down as though shot, then began screaming." The bird's "stiletto-like" nails had punctured her abdomen and cut one arm to the bone, but she survived.

"Needless to say," Gilliard added, "we were incredulous when, after the attack on the woman and after exposing ourselves, the natives began expounding on the bloody history of this bird."

The cassowary, which grows to as much as six feet tall and 120 pounds in weight, is one of the few birds in the world that can easily kill a full-grown person. In New Guinea, where the cassowary is the largest native animal, it often does. The bird's powerful legs make a fearsome weapon because each foot is three-toed, the inner toe being equipped with a sharp claw, four inches long. The cassowary Gilliard encountered had previously killed one person and attacked two others. During World War II, Allied troops sometimes were attacked by these birds. More recently, in 1975, a New Zealand wildlife consultant, Brian Reid, working in New Guinea's southern highlands, reported that he had heard of four deaths due to pet cassowary kicks over a period of only 16 months.

Pet cassowary kicks? "Although long treated as a pet and child's plaything," wrote Gilliard after the accident, "the bird becomes more and more aggressive as it grows. Often it continues to enjoy comparative freedom until an unfortunate incident occurs."

The cassowary is a close relative of the emu and a more distant relative of the ostrich and rhea. A native of the dense rain forests of New Guinea, neighboring islands and the northern tip of the Australian state of Queensland, the cassowary was first described in 1658 by early Dutch and Portuguese colonizers. Today, three centuries later, it remains little-known, even to biologists. There have been only a handful of studies of the cassowary's behavior and biology in the wild. Although wild cassowary populations have drastically declined in some inhabited areas owing to overhunting, the birds are still plentiful in remote regions.

A beauty from the neck up

This does not mean that they are easy to hunt down. Because of the rain forest's density and the cassowary's wariness of Man, the birds are not often seen in the wild, magnificent and colorful though they are. In contrast to the drabness of the emu, the cassowary has glossy, jet-black plumage—a drooping canopy of feathers that hangs coarse and brushlike because it lacks the barbules that lock other birds' feathers into a flat vane. The cassowary's head is particularly spectacular, crowned with a leathery "helmet" called a casque. The naked neck shines iridescent blue on the sides and pink or scarlet on the back. From the throat

In song, cassowary has been described as "croaking, squeaking, howling, grunting, snorting or bellowing."

may hang wattles of brightly colored red, pink, orange or yellow flesh. (The three known species of cassowary are differentiated by these wattles. *Casuarius casuarius,* the "Australian" cassowary, has two wattles; *Casuarius unappendiculatus* has one; and *Casuarius bennetti,* the dwarf or Bennet's cassowary, has no wattles.)

Cassowary wings are small and hidden. Although the bird cannot fly, it can run fast, leap obstacles, plunge into water and swim rivers. Even when crashing through thick jungle, the bird has been clocked at 30 mph. It is able to maintain this tremendous speed by lowering its head in front of its wedge-shaped body and charging through the underbrush, its casque and bristlelike plumage warding off thistles and vines.

When confronting a river at full tilt the cassowary plunges in without even breaking stride. Its heavy body is completely submerged when it swims, so that the observer sees only its garishly colored, helmeted head cutting across the water.

In their natural habitat of thick forests and along rivers, cassowaries assiduously avoid humans. But New Guinea natives have hunted them for food and feathers, and also raised them in captivity, for centuries. In the southern highlands of Papua New Guinea, domesticated cassowaries have long played a part in tribal culture. In Mendi and surrounding villages, raising the birds is an important industry. Each village has a specialist skilled in handling cassowaries and has a crude pen—usually little bigger than a rabbit hutch, ankle-deep in excrement—where chicks are raised for two to three years (sometimes up to ten years) until they are of impressive size.

The tribesmen keep a few cassowaries for the plumes, which are regularly plucked to make headdresses. The birds also make up a portion of bride prices. If a cassowary is full-grown and well-complemented by other gifts, then a single bird is included as part of a bride price. But often, especially if the bird is not mature, more than one is required, together with other items. For example, in February 1975, a suitor for a bride from the village of Lonk had to pay three young *Casuarius bennetti,* one cow, 25 kina shells and $1,040 in cash. The bird has also long been used to pay debts. "If the Kina [the Papua New Guinea dollar] is the currency of our rural villages," wildlife officer Gabriel Aitsi said, "the cassowary is the 'gilt-edged security'—always redeemable and acceptable in any economic and social obligation."

In recent decades, cassowaries took on an even more important role among the southern highlanders, especially in the Mendi area. After the government

Noel Vietmeyer, a professional associate of National Academy of Sciences, is a frequent contributor.

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ONLY THE TASTE IS MAGIC!

At cassowary "race" held in early 1970s, owner shoulders his dead bird in preparation for parade.

banned tribal warfare in the highlands, the people turned to an old tradition of "power displays" in order to settle disputes. In such events, tribes would vie with each other to show which could display, and sometimes destroy, more of their wealth, measured in such terms as pigs, cattle, goats, and—in recent years—small trucks. Cassowaries proved ideal for this purpose. Although difficult and dangerous to catch, they could be kept and displayed fairly easily. "Owning a lot of cassowaries adds to one's prestige," Gabriel Aitsi observed. "But it is killing cassowaries that brings the greatest prestige. If you can afford to kill them off, you're really a man to reckon with!"

"If there's an argument," explained Brian Reid, "instead of going to war, the opponents retrench and begin acquiring as many cassowaries as they can. Then they settle the dispute at a 'race.'" The "race" had nothing to do with running, but was a sort of military operation at which members of the disputing clans battled each other indirectly using cassowaries. It demanded political organization, alliances, huge expenditures, posturing and power displays.

Races were planned months in advance and, because acquiring a flock of cassowaries big enough to intimidate the rivals might take several years, they usually involved old disputes.

Killing cassowaries instead of each other

The participants wore their fighting costumes—including soot and clay on their faces and cassowary-plume headdresses, and carried stone axes and bows and arrows. The race provided excitement, drama and danger and demonstrated each side's seriousness about solving the problem. The cassowary race occurred in a spirit of warlike tension—each village taking its turn as host—but the human participants rarely got hurt.

After all the ceremonial posturing was over, the birds were lined up and counted; and, at some races, the members of each side slaughtered some of their own. The side that killed most then attained the greatest stature and, by general consensus, won the "battle." The dead cassowaries were then paraded in front of the opposition, amidst chanting and taunts of superiority (opposite). As in war, each side left a cassowary race economically and politically exhausted.

But before leaving the scene of the race, the members of each side gathered their supporters to feast on the cassowaries they had killed. They dined well. Cassowary meat is dark colored and tastes more like beef than chicken. One report likens its flavor to a cross between beef and turkey. The drumsticks of young birds make the best eating and are as large as a roast beef. "A delicacy to eat," says Brian Reid. "Magnificent!"

In warrior's regalia, including cassowary-plume headdresses and painted faces, natives parade dead birds (upside-down on their backs), chanting boastfully to opposition of their superior showing.

The Mendi cassowary races were fearfully expensive. In a single race, a village often sacrificed 30 or 40 birds worth perhaps $12,000. At one race held in 1974, for example, the inhabitants of Senegre village and a rival clan ritually killed 40 cassowaries, 4 cows and 100 pigs. In financial terms, winning was usually a Pyrrhic victory; the outcome was bankruptcy on both sides. "At a race, the Mendi people voluntarily go into poverty," said Reid. "The whole village ends up in debt, taxes and school fees go unpaid, and children often suffer, going cold for want of a blanket or shirt [Mendi is close to the Equator but is located at 7,000 feet altitude], or getting wet for want of a piece of plastic that easily could have been bought instead of cassowaries."

The use of the cassowary in power displays presented the government of Papua New Guinea with a dilemma. It felt the practice created a devastating financial burden on the southern highlands economy, but its central policy for economic development was to retain traditional cultures and improve them by the gradual introduction of modern knowledge. The government recognized that traditions had evolved since the "time of the ancestors" and that through trial and error most had come to make sense for villages isolated in Papua New Guinea's tropical rain forest. To attempt to change the tribal structure could leave the people rootless, lost and uncertain of their future.

In its conflict between traditions and modern pragmatism, the government decided on an indirect but innovative approach that exemplified its principles. It established the world's first cassowary farm.

"Mendi people have an immense interest in cassowaries," said Navu Kwapena, Assistant Secretary of the Wildlife Division when this program was starting up. "We are supporting that interest, but hope to quietly redirect it so that cassowary rearing becomes more humane and more efficient. In addition, we hope to deflate the prices by increasing the number of available birds and by undercutting the market prices."

Situated in the village of Was, a few miles from Mendi, the government farm is reached by a rocky road passable only by vehicles with four-wheel drive. There, a site for 500 birds was set up on a few acres situated in a village woodlot of eucalyptus and casuarina trees. Brian Reid and Gabriel Aitsi got the project rolling.

In the six-year-old program at Was, a half-dozen 60-by-60-foot enclosures have been constructed of wire and stick. Each has a roomy shelter for the birds, and

a visitor finds that almost all have at least one cassowary at any given time. The pens are spotlessly clean, with a faint smell of a poultry run.

Research into cassowary biology began with investigations into diet and growth rates. In the wild, cassowaries live mainly on fallen fruit; in village hutches they are fed scraps of potato, sweet potato, yams and cabbage. Reid and Aitsi found out almost immediately that the birds were not digesting their food efficiently; many foods were passing through the digestive tract almost unaltered. They were able to overcome this by steaming the food for ten to 15 minutes before feeding it to the birds.

Because the cassowary was so important to Mendi people, villagers walked in from all over the district to see the farm. They came largely as skeptics, but the quick growth of the farm birds proved a revelation. Birds that in the villages took five or six years to mature reached bride-price size in two-thirds that time. As a result, the research at Was quickly began influencing cassowary-raising techniques in hamlets throughout the region.

The government's aim to stabilize runaway inflation by boosting the number of cassowaries appears to have worked. Although only 18 birds were reared the first year, they sold for only between $85 and $100 each. Prices in the Mendi area markets fell dramatically from their previous norms of $400 to $500 per bird, as much because the villagers felt the bird's prestige had been sullied as because of the government's price busting efforts. The birds were now too easy to get, taking away much of their attraction, and their large-scale use for races quickly waned.

The government's economic stabilization program for the cassowary business also included a program for conserving the wild populations in the coastal regions that supplied the Mendi trade. Even in distant locales, voracious demand for more birds had reduced cassowary numbers. To slow the depletion of one breeding area after another—a process that had spread across the land because of more cassowary races, more travel and trade and the increased income of the people—wildlife preserves were set up.

The first, the Tonda Wildlife Management Area near Bensbath in Papua New Guinea's southwestern corner, began operation in 1974. Chicks culled from the wild are sold to the Mendi people.

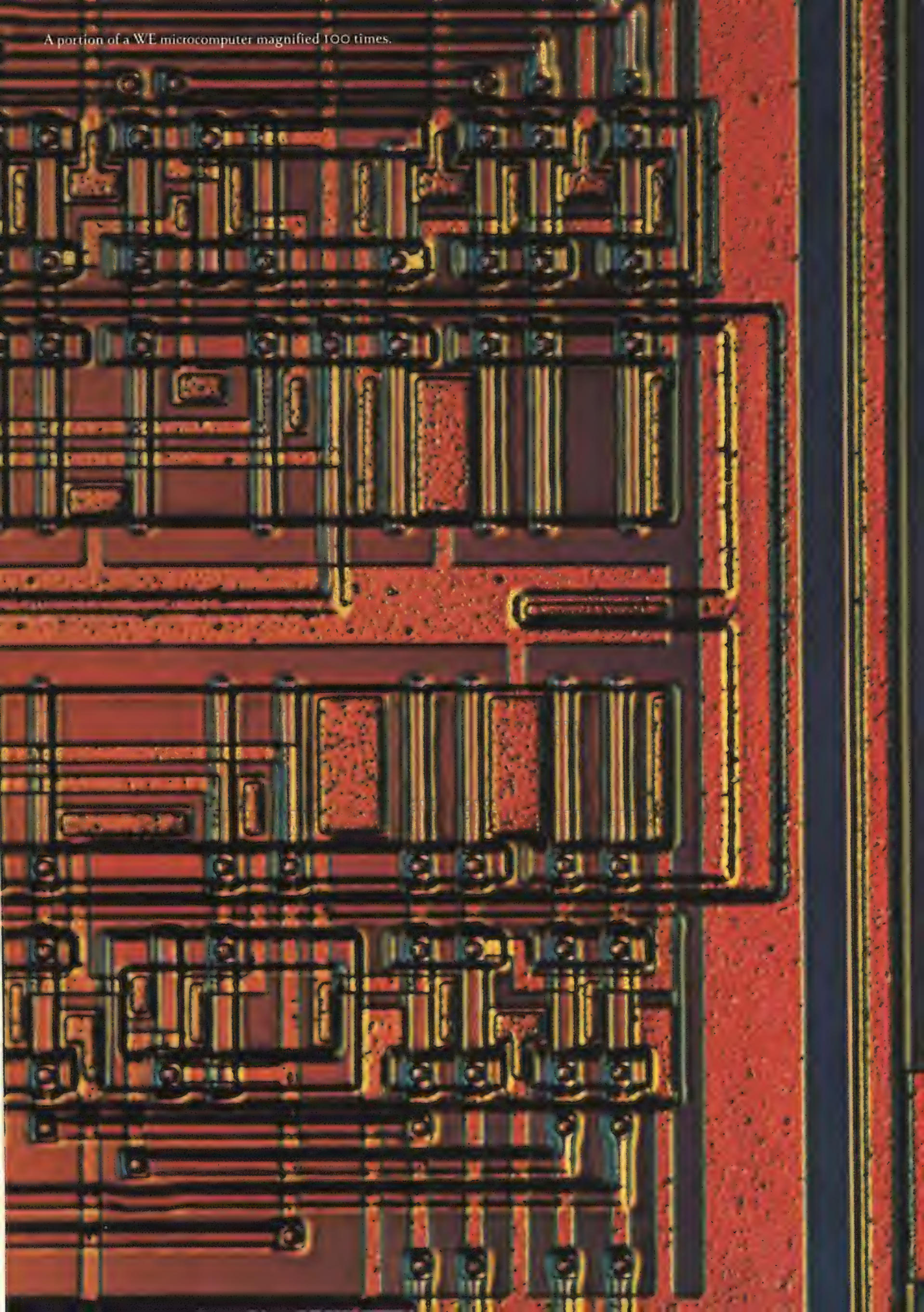
The wildlife officers at the Was cassowary farm also buy chicks from the Tonda Wildlife Management Area, although they hope one day to breed their own birds and build larger flocks. They recently bred their first pair successfully in captivity. But, as Gabriel Aitsi points out, domesticating these giant creatures remains a risky proposition: "They are likely to turn on you at any time, no matter how long and how well you've cared for them," he says.

In Papua New Guinea's southern highland village of Nipa, two villagers feed a pet cassowary chick.

At Djakarta Zoo, bird whose forebears attacked troops in World War II struts by war relic on exhibit.

19

A portion of a WE microcomputer magnified 100 times.



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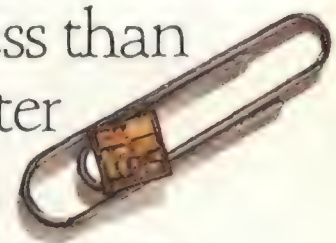

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Article and photographs by Paul Seligman

Forsaken sculpture enriches garden at Brooklyn Museum

Exuberant figures and designs by immigrant artisans that once enlivened city buildings now find serene sanctuary from the wrecker

Wall of Brooklyn Museum Sculpture Garden displays facade ornaments from vanished New York buildings.

What is a carved keystone from Al Capone's notorious Four Deuces Club in Chicago doing at the Brooklyn Museum? The grotesque mask (opposite) rests among hundreds of realistic, fantastic and abstract carvings in The Brooklyn Museum Sculpture Garden.

These bits and pieces—keystones, cartouches, capitals and pediments—once decorated late-19th-century and early-20th-century New York City buildings. (Capone's keystone is one of two items from elsewhere.) As the wrecker's ball swung close, they were saved by art buffs who recognized in them the artistic expression of anonymous stone carvers. The sculpture garden itself was not originally created with its present purpose in mind. After Walter Rothschild donated funds for creation of a garden in memory of his mother-in-law, it was opened 21 years ago as the Frieda Schiff Warburg Memorial Garden.

Another gift defined the garden's purpose: the Anonymous Art Recovery Society (AARS), founded by Manhattan art dealer Ivan Karp, donated a collection of architectural detail salvaged from razed structures. In the years since, groups and individuals have contributed. The AARS and museum curator Barbara Millstein comb demolition sites for fragments.

Among the collection are ornaments (p.104) from the only building in New York designed by Louis Sullivan, the Bayard Building on Bleecker Street. Cast-iron railings of athletes from the Police Gazette Building (p.104) and pieces from Steeplechase Park are among treasures rescued from long-gone structures.

Located behind the museum, the recently enlarged sculpture garden is a quiet place in which to rest and eat lunch. Unlike the sculptures inside the museum, these pieces can be touched. Carvings of idealized portraits and animal heads on ground covered with leaves or fresh snow produce the serenity of a country graveyard. In all, the garden contains about a thousand items in terra-cotta, marble, brownstone, limestone, brass and cast iron.

Prior to 1870 little stone decoration was done on New York buildings, except for churches and public buildings. Architectural carving began with the arrival of artisans among the masses of European immigrants. Architects would buy sculptures already done, or show sketches of what they wanted carved, often using handbooks of ornamental designs. Frequently the carver was allowed to fill a given space as he saw fit.

Fill it he did, many times with odd mixtures of human and animal anatomy. Caricature lent itself to keystones. There were humorous and sentimental pieces. This eclectic and uninhibited work was done by stone cutters from Central Europe and Italy. Severely classical sculptures were often the work of northern Europeans. Russian Jews and Southern blacks who had migrated North added their styles.

Grotesque limestone mask adorned Al Capone's Chicago speakeasy of the 1920s, the Four Deuces Club.

Iron railing from old Police Gazette Building, Pearl Street, Manhattan, shows athletes flanking *Gazette* monogram. Owner Richard Fox designed the figures.

Bronze longhorn steer head supervised Schieren belt manufacturers in lower Manhattan until building was razed in 1967. Sculptor Solon Borglum was brother of Gutzon Borglum, who carved Mt. Rushmore heads.

"The carvers created a style that was purely American," says Mrs. Millstein. "In Europe they were told by a master carver what to create, but here they mixed styles and objects that recalled memories of relatives and Europe." Many of the itinerant craftsmen rode the rails to jobs in other cities. Few lived beyond the age of 40, most dying of silicosis, then known as "galloping consumption." They did not consider themselves artists, though many were. Their pay was poor, their work unrecognized. Few people walking city streets look up at a sculptured facade.

Building decoration reached its peak with the influence of the Beaux-Arts style in the 1890s. One of the big concerns of the time was the type of stone used, each having special characteristics. Quarries stretching up and down the East Coast and into the Midwest supplied the city's stoneyards.

Barbara Millstein points out that sandstone (reddish-brown sandstone is called brownstone), used in so many American city buildings at that time, was a tempting medium for the sculptor. It was easy to work as long as it was handled right. But it has a layer-cake composition that can result in disastrous flaking if a carver doesn't know what he's doing.

Sadly, by 1910 the tiny renaissance of architectural stone carving was over. Advanced technology, tighter money and sleeker building designs that left few provisions for ornamentation ended the era. Only on public and commercial buildings was much decoration still found—at least into the 1930s—and then it was often simply cast. The Brooklyn Museum's garden has saved a memory and rescued hundreds of fascinating fragments from becoming landfill.

Paul Seligman is a New York photojournalist and author of Debuts and Farewells, *published by Knopf in 1972. He is a native Brooklynite.*

Ornaments were designed by architect Louis Sullivan for Bayard Building, his only New York job.

Terra-cotta heads of Athena may have decked an Upper West Side

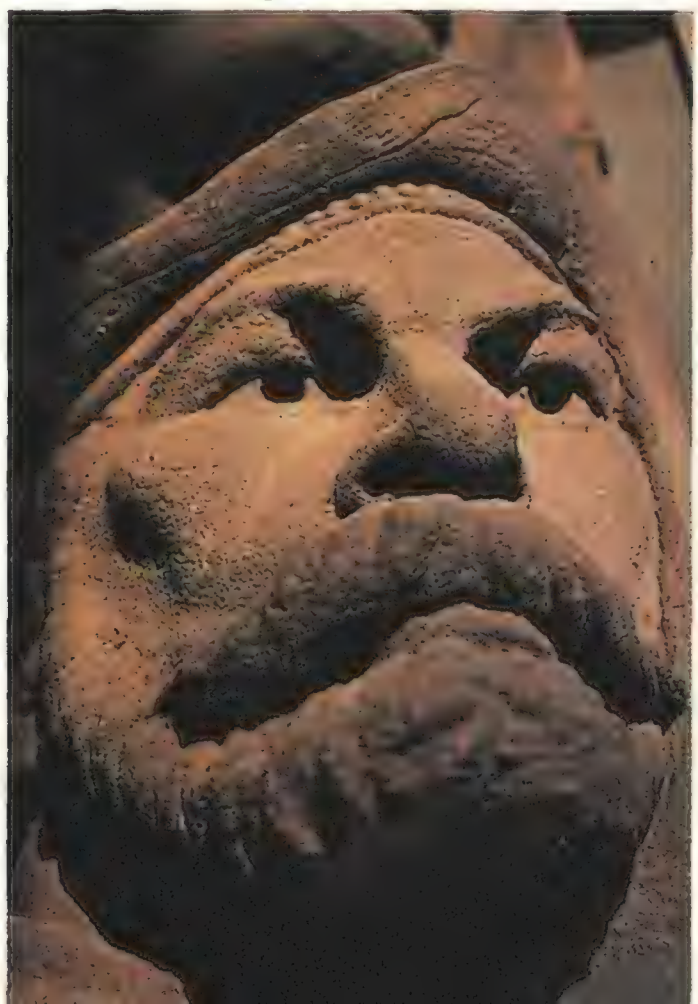
Lincoln in brownstone dignified bank at Moore and Metropolitan avenues in Williamsburg section of Brooklyn. It was possibly the work of a black sculptor.

Limestone telamones, below, came from Lurcy Mansion, Fifth Avenue (1899). It was torn down for apartment house where Nelson Rockefeller lived.

Charles Darwin, done in terra-cotta, perhaps in Germany, by August Löher, gazes from medallion that graced the Fisher Scientific Company on Third Avenue. It was built in 1888, torn down in the 1960s.

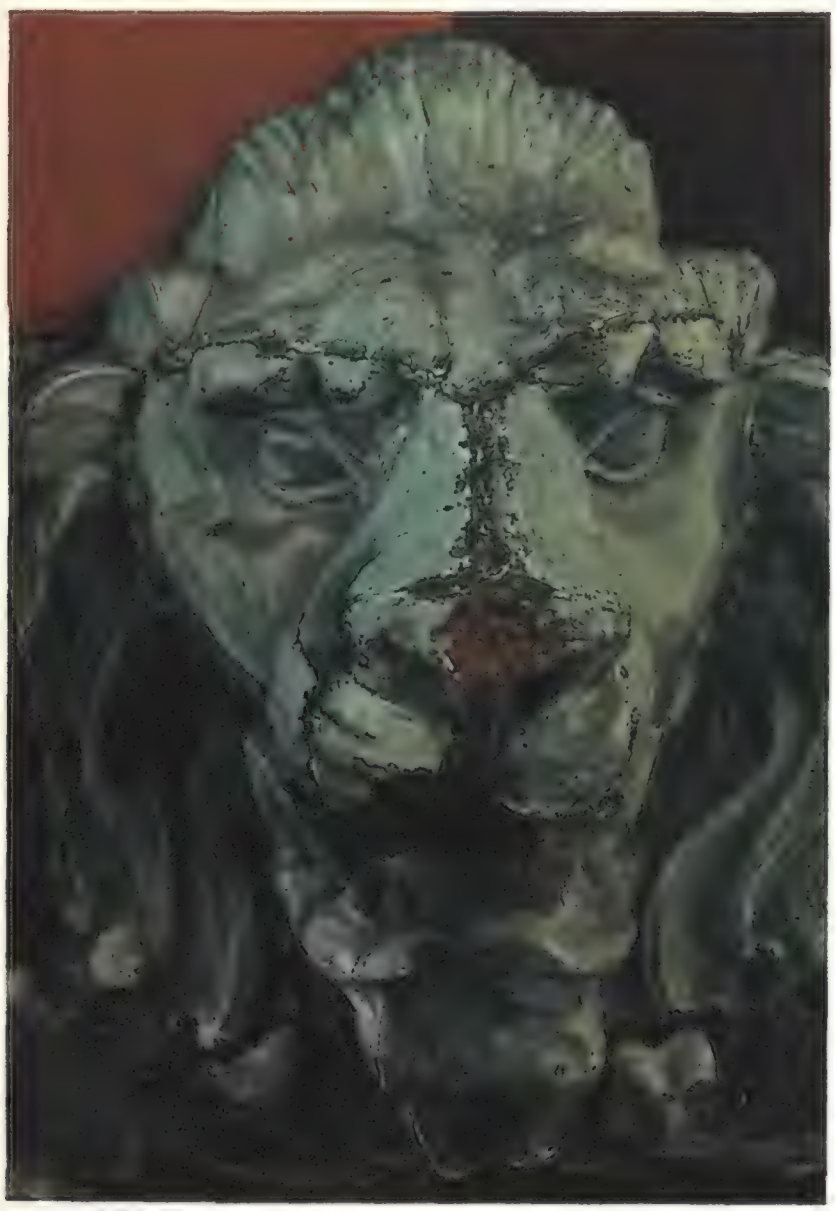
theater. It's gone now,
and Greek goddess
peeks from garden snow.

Bas-relief head of a sailor from cruiser *Brooklyn* may be the work of a black artist. It decorated stoop of a Manhattan house.



Terra-cotta medallion of a woman with flowing hair came from clinic for Italians at Chatham Square—since torn down.

Shown in torso, a winged boy, his wings now missing, grasped his draping festoon of fruit on a long-gone building that once stood in Manhattan. Now broken, the sculpture was done in terra-cotta around 1890.



Copper lion with green patina, welded in sections, was one of 100 that came from the trim of Public School 21 at Green and Mott streets, in lower Manhattan. It was built in 1912, demolished in 1973.

Snow-draped cartouche, above, is of neoclassical female head that may have adorned a private brownstone house around 1910. Such fragments give the garden the feel of a quiet graveyard.

Athena in terra-cotta came from the Upper East Side and was probably done around the turn of the 20th century. It's one of 12 Athenas the museum now has, indicating the goddess' popularity with sculptors.

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COUGAR FROM LINCOLN-MERCURY

*Compare to estimated MPG of other cars. Your mileage may differ depending on speed, weather, and trip length. Actual highway mileage probably lower.

COUGAR
LINCOLN-MERCURY DIVISION
Ford

View from the high altar as Paul Winter (red shirt)
and Consort play and Al Huang (in yellow) performs

Text and photographs by Bart Barlow

As wolves howl and whales sing, listen to the music

The Paul Winter Consort blends the sounds of instruments with the sounds of animals to remind us of Man's harmony with nature

t'ai chi dance movements during "The Tao of Bach" concert at Cathedral Church of St. John the Divine.

Paul Winter poses in front of painting by Edward Kasper that was cover art for *Common Ground* album.

It is the cool blue evening of the vernal equinox, and inside one of the largest cathedrals in the world more than 3,000 people are howling like wolves. There is a seven-second reverberation within the lofty, gray stone interior of the Cathedral Church of St. John the Divine in New York; as the lupine chorus builds toward its crescendo, the wolf cries become transformed into a vortex of extended swirling sounds, an otherworldly communal howl that seems to come from deep within the cave of time.

What sparked this rite that feels, strangely, both pagan and religious?

Moments before, musician Paul Winter had finished playing *Wolf Eyes,* a bittersweet song that joins the liquid clarity of his saxophone with the haunting wilderness sounds of recorded timber wolf calls. "When was the last time you had a good howl?" he asked the audience, and it responded without a trace of the usual hesitancy a group exhibits when asked to sing or clap in unison—thus perhaps affirming Winter's notion that "We are animals to a far greater extent than we realize."

The howling session was part of the first concert given by Winter and his group, the Paul Winter Consort, as artists-in-residence ("in resonance," prefers Winter) at the cathedral.

"I'm looking to acknowledge nature, all the time," says Paul Winter, whose music embraces the sounds of whales, eagles, wolves, rivers and oceans. In indoor spaces like Carnegie Hall and the Kennedy Center, or at outdoor "Musical Town Meetings," Winter attempts to dissolve performer/audience barriers. Concerts marking equinoxes and solstices are one way, he believes, of returning to shared rituals that celebrate our links to the natural universe.

Paul Winter formed the Winter Consort, based in Litchfield, Connecticut, in 1967, and to his delight, and his booking agent's chagrin, the group continues to elude easy definition. Over the years the ensemble's sound (primary instruments: soprano and alto saxo-

Drawing from an album shows Winter (left) at recording session with whales off British Columbia.

phones, oboe, English horn, 12-string and classical guitars, cello and percussion) has represented a synthesis of jazz, symphonic, Brazilian and African influences. This amalgam has yielded a musical palette that goes from kick-up-your-heels, no-nonsense tribal rhythms to contemplative, spacy aural fabrics ideal for imaginary cosmic journeying.

Using "organic textures of sound," Winter is seeking to present "a timeless spectrum of music." Toward that end, he recently invited 13 different sea mammals, which he considers "co-composers," to perform (via tape recordings) on the Consort's just-released two-record album *Callings*.

Callings is the first of a trilogy that will ultimately include recordings that mate human notes with the natural music of land mammals and birds. Winter sees this current album as a "musical novel." It charts the course of "Silkie," a "mythical sea mammal, part seal and part human." On her odyssey from Baja California, up the Pacific Coast and through the frozen Arctic reaches to the Gulf of St. Lawrence, "Silkie" encounters (and we hear the sounds of) bottle-nosed dolphins; a sea otter; blue, killer, beluga, humpback and bowhead whales; a California sea lion; a polar bear; fur, harp and bearded seals; and a walrus. A wolf, coyote and bald eagle also call out to keep touch with land, ice and sky.

At a late-summer *Callings* recording session in St. John the Divine, the Consort's instrumental setup is an island facing a sea of empty pews. Winter looks up at the 124-foot-high vaulting, a study in chiaroscuro in the low incandescent light, and muses about making a cut called *Blues' Cathedral*, in which the group joins forces with blue whale songs.

For Winter, to be working with the sound of the largest creature in the world in one of the largest cathedrals in the world is "a titanic thing to think about. It's humbling. It's canyonesque."

It can also be burlesque. As the other players prepare to record a sea storm section, Nancy Rumbel, the group's oboist, is introduced by Winter to the instrument that will answer the call of the blue whale, the contrabass sarrusophone. Rumbel puts the reed of the giant silver instrument to her lips and out comes a comical blast of resonant metallic flatulence. Laughing, Paul Winter plays a cassette of one of the creature's less melodious calls for her. "That's the *whale*!" she says, surprised. "It *does* sound like this."

Music is a tool, believes Paul Winter, not only to celebrate the vibrant aliveness of other creatures, but also to awaken greater levels of awareness and expressiveness in ourselves. This is the theory behind

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The brightest ideas in the world are here to play.

his "Home-made Music-making Workshops," events where participants, musicians or not, are encouraged to put together improvised vocal and instrumental sounds. During a session held at Haystack Mountain School of Crafts, on Deer Isle, Maine, Winter starts by asking people to close their eyes and make "oooh" sounds. "Think of being waves," he urges. Next, he has the group of 30 imagine themselves on a "safe magic carpet. You can make any sound you want," he tells them. What follows is a cacophonous collection of whoops, bleeps, buzzes, yips, yee-haws, oinks, whistles, tweets, barks, pops, clicks, howls, sirens, laughs, lip smacks, ahs, ooohs, wind noises, rattles, groans and claps.

An assemblage of bedlamites

To walk in cold to this jungle of sound would be to assume you have encountered an assemblage of bedlamites. And to listen to reactions such as that of a woman who, after the workshop, says, "I discovered a lot of things about myself—it was so deep," is to wonder if these exercises and their participants are just holdovers from the "Me" decade.

Winter thinks not. He hopes the Eighties will become known as the "I-Thou" decade. The goal of the workshops, he says, is "some kind of instinctive, collective union," an aim realized more evidently when the group took to the sunlit rocks beside the breathing waves of coastal Maine and joined in interlocked rhythms led by the jubilant thwack notes of a Ugandan xylophone—the amadinda.

In a mass-media, popular-entertainment sense, the Winter Consort is one of the better-kept secrets in America. Yet, the group has a solid following, some of whom regard Winter as a kind of cult figure who goes to the woods to make music with wolves, and floats in boats to play his sax to killer whales. At 41, the tall, Altoona, Pennsylvania-born musician is an elder statesman in the now-aging and evolving counterculture. His appearance—clear, gazing light blue-green eyes and a powerful bald dome, surrounded by a brown fringe of hair with long, gray temple strands that cascade down to a reddish beard—is appropriate for a contemporary wise man. Yet Winter eschews the role of guru.

Of the wildlife he plays with, farm-dweller Winter says, "If I'm able to convey to the indoor city people anything about the wonder of these wild creatures—and about their plight—I think I'll do it with their sounds, because it's the closest thing to the spirit of those creatures that you can experience short of being with them."

Does his theory work? The indoor city people who attended the cathedral equinox concert got some kind

Whistle blower tunes in at a music improvisation at the Haystack workshop, Deer Isle, Maine.

of spirit. As the audience streamed homeward through the eerie streetlight vapor of late-night Manhattan streets, a spontaneous howl erupted, wolf packs called out and answered each other in the stark urban canyons. It happened again down in the dim grime of the subway, in a howl celebration that broke all the rules of tense, stony-faced mass-transit decorum.

What kind of people make up the Winter Consort's audience? It depends. At one outdoor festival it is mostly a "new age" crowd, in their 20s and 30s, where a lost-boy announcement goes like this: "His name is Steven, and he's wearing a T-shirt that says 'Question Authority.' " Yet at another concert we find a Norman Rockwellian group that includes two nuns, steely-haired grandmas in folding lawn chairs, and Judge Clark Hull, a portly man with authority attached to his name. The judge, sunburned and lugging an ice cooler, thinks Winter's "Musical Town Meeting" term is especially appropriate for this particular gathering —a Fourth-of-July Consort presentation of Charles Ives music in Ives' hometown of Danbury, Connecticut. The "discordancy" in Ives, he smiles, "is very much like a Danbury town meeting."

It is not out of character for Winter to be playing Ives, or Bach or Bartók. He sees himself as a musical "hunter-gatherer." He disagrees with those who, like one New York concertgoer, think his concern for nature and wildlife ignores people's troubles. The prob-

Bart Barlow, a frequent contributor to the New York Times, *is a Manhattan-based free-lance photographer and writer.*

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lems of endangered species and the environment are symptomatic of human ills, he says. He feels that by viewing animals as teachers, as the American Indians did, we, the "juvenile delinquents" among the species, might learn how better to live our lives in harmony with each other and the Earth.

Some might look past the philosophical pronouncements and question whether the Consort's music-making with nature is anything more than a gimmick, a way for a group to set itself apart from the musical mainstream to gain more notice. "The only way you can know if somebody is doing something for a gimmick is just wait around a little bit and see how long they do it," Winter responds. He has already been doing it for ten years.

Still, another question needs asking. What about the communication controversy? What does Winter think? Is he communicating, through music, with the creatures he has played to in the wild?

" 'Communing' is the word that I would use," he answers. " 'Communicating,' I have no idea about; that implies some meaning. I'm no longer interested in what the meaning is. It's enough for me to just be there in the space and commune with sounds."

Winter has found it exciting to get "answers" from wolves in the woods, but admits that "they'll howl at passing freight trains; it's no great thing to get them to howl." And responses from the killer whales he has played to "could just be a coincidence," he says. The wild remains wild. The orcas Winter has seen up close are "not frolicking like killer whales in a Sea World show," he says, "they're busy." Perhaps too busy for a musician "in a little boat, playing a feeble little instrument."

Winter again felt the effect of "bringing our little arrogant culture into great nature" when he was forced to rework his idea of using the Grand Canyon as a geological music hall. During an on-location recording trip for an upcoming Grand Canyon theme album, Winter discovered that acoustic, resonant chambers were easy to find, but many were already resonating with sound. The roaring Colorado River, and even singing cicadas, often overwhelmed the musician's efforts. "It was ludicrous," he grins.

Strangely enough, nature was more in tune with Winter's desires back in New York City, while recording a sea storm cut for *Callings*. The piece uses the rumbling thunder power of St. John the Divine's longest (32-foot) and deepest organ pipes, timpani, bass drum, thunder sheet, gongs, cello and cymbals to conjure up the relentless rush of mammoth crashing waves, wind, thunder and rain. During playback of a take, a stroboscopic series of violent lightning flashes suddenly made the church's rose window blossom with its daytime colors. Winter instructed the technicians to quickly rig a mike at a window to catch the rip-snorting force of the *real* thunder peals kabooming outside. "These are your teachers," coached oboe player Nancy Rumbel, and, in harmony with the fortuitous blitzkrieg, the musicians took the take again. (Album-liner notes include a credit for "The Great Drummer in the Sky.")

At dawn, three days after the autumnal equinox, *Callings* was completed; and the sleepless Consort remained in the cathedral to perform, that night, a concert titled "The Tao of Bach."

"Wolves and Bach—it's all the same to me, the same sacred music," says Paul Winter. "As I look at it, music is a synonym for life, it's not something separate or special. And I find the spirit of life reflected beautifully in both of those kinds of music."

"Music just ain't the same when you're watching it," says Winter as group listens by relaxing bodies.

Paul Winter plays saxophone as he communes with sea during "time out" from his Maine workshop.

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The knowledge business

By James Risser

A renewed threat of soil erosion: it's worse than the Dust Bowl

U.S. farmers have recently abandoned many old conservation measures that helped to save their land—with dire consequences

Steve Brunson, Tennessee farmer, climbs into his pick-up truck and drives down the country road, through a disintegrating landscape. On one side of the road, a fence hangs suspended in air, the ground beneath it mysteriously gone. On the other, deep gullies are carved into a barren hillside.

Brunson comes to a bridge crossing one of the many creeks that wind through western Tennessee, and stops to let a visitor take a look. The stream banks are sloughing away, trees and huge chunks of soil from the bordering field falling into the creek. "This was dredged out just last summer to let the water run through," says Brunson. Now, in the rainy weather, the creek bed is choked with soil again and toppled trees are beginning to dam the stream's flow.

A few miles away, other soil-laden creeks have overflowed their banks, flooding hardwood forests and farms and killing wildlife, then receding, carrying more soil from the land into the streams in an insidious, vicious cycle.

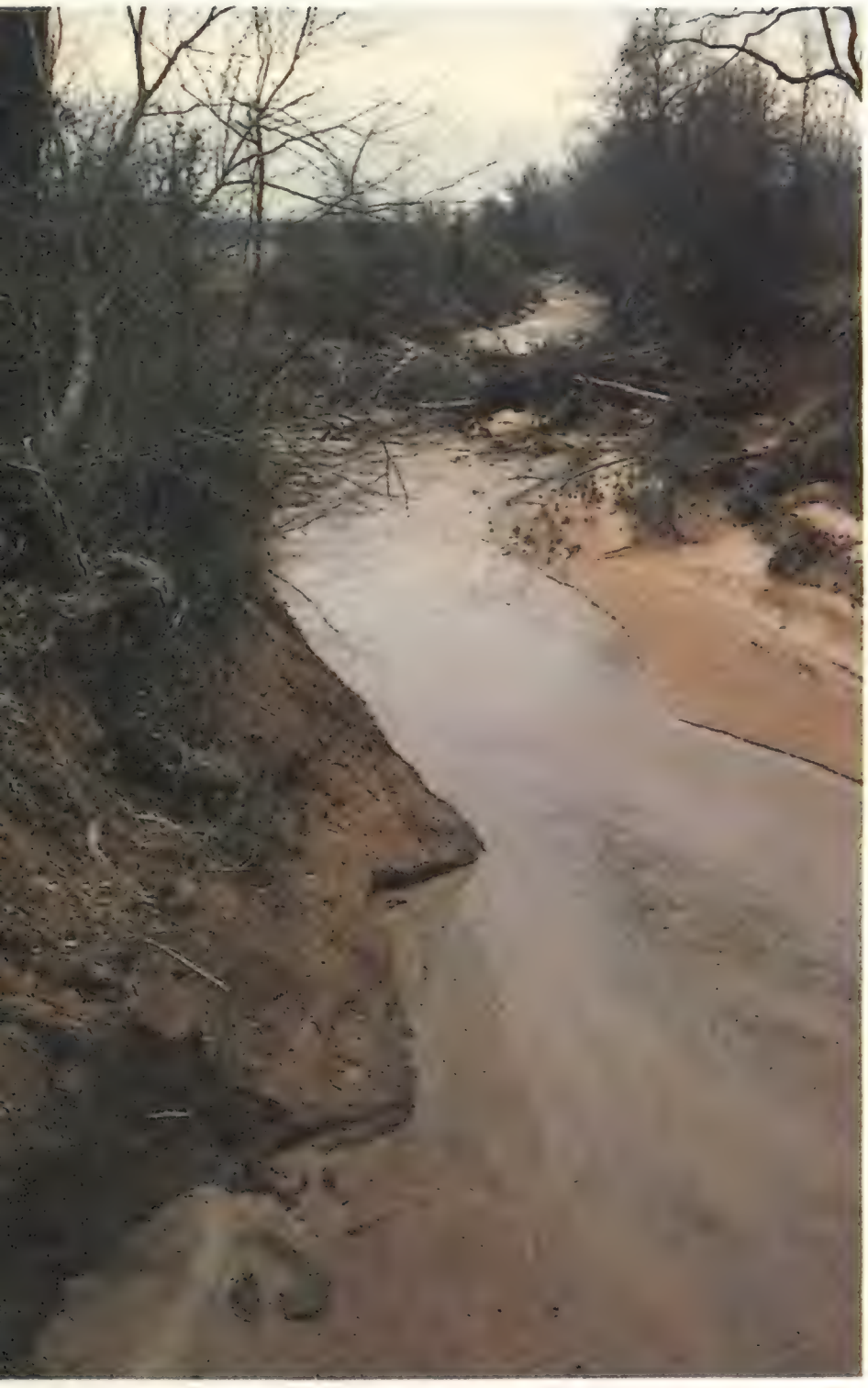
With Brunson is E. B. Dyer, assistant state conservationist for the Soil Conservation Service in Tennessee, who has watched in anger as a massive shift in farm-production practices begins to destroy the land he must guard. "The flooding and swamping conditions are just a symptom of the real problem, which is erosion," says Dyer. "Less than 20 percent of the land here is adequately treated against soil erosion. We've sort of lost our conservation ethic."

A 1933 photograph recorded aftermath of winds that spread ruin over millions of acres in five states.

A plains dust storm is a grim reminder of the 1930s, but it could also be a harbinger of future disaster.

Uphill battle to save eroding soil

Fence hangs suspended over washout near Brunson farm in Tennessee. State conservationist looks on.



A soil-choked creek in western Tennessee is a common sight where farmland washes away at a record rate.

"A majority of farmers still question the need to do anything about erosion," says Brunson, who is trying with limited success to convince his neighbors to fight the plague that threatens their future.

He stops his truck at the farm of Bill McClure, one farmer who understands Brunson's concern and has spent thousands of dollars of his own, building terraces, dams and ponds to protect his land, even forgoing planting lucrative crops on the most fragile sections of his farm.

Why does he do it? "That's where my living comes —off that piece of dirt," McClure explains. "If it all washes away, I'm not going to have anything to eat." But he shakes his head over the failure of voluntary soil-conservation programs to keep pace with the accelerating erosion: "Someday, soil conservation may have to be mandatory; I don't know how else we're going to get it done."

Erosion of America's farmland, by wind and water, has been a problem since settlers first broke the virgin prairies and grasslands in the 19th century. A mainly invisible menace, erosion forced itself into the national conscience in the Dust Bowl days of the 1930s, when dry winds lifted the red, drought-stricken soil of Texas and Oklahoma in huge rolling clouds and deposited it hundreds of miles away. In a few years, wind and water erosion damaged 282 million acres of American farmland. The abandonment of the land by thousands of farmers driven into bankruptcy left fields untended and ever more susceptible.

Finally, in 1935, a shocked nation enacted new laws to protect the soil, as President Franklin D. Roosevelt

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signed a measure creating the U. S. Soil Conservation Service. Government agents fanned out across the country, instructing farmers in how to hold on to their soil, and millions of dollars were spent building terraces, planting trees as windbreaks, trying new methods of strip-cropping and crop rotation.

The experiment worked. Erosion slowed down, and as the American economy began to boom again in World War II days, ravaged farmlands became lush and productive once more.

But with typical American enthusiasm, farmers and federal agricultural planners figured that if a boom was good, more boom was better. By the early 1970s, under the impetus of huge grain sales to Russia and China, the United States stopped paying farmers to keep land idle as a way of preventing surpluses. Land never before touched by the plow—much of it previously thought too fragile, or not fertile enough—was hastily planted to provide wheat, corn and soybeans not only for the United States, but for the rest of the world. The old terraces and rows of trees got in the way of gigantic modern farm machinery and left valuable agricultural land idle, so they were ripped out and the land seeded with grain.

In 1979, Rupert Cutler, then assistant secretary of agriculture, came before the House Agriculture Committee with the message that after 40 years of conservation efforts, soil erosion now is worse than in Dust Bowl days. Water erosion, in particular, is taking its toll and, although few dust storms sweep the plains states, some experts see signs of their return. In 1979, 1.4 million acres of land were damaged by wind erosion in ten states that make up the Great Plains, more than double that of the previous year. Because marginal, hilly, poor-quality land has been planted, and because many farmers no longer alternate grain crops with soil-conserving grasses, rain and melting snow are able to strip millions of tons of soil from the land annually.

Fertile soil is not of unlimited depth. The portion upon which crops can best be raised—the topsoil—varies in depth from inches to dozens of feet. Depending somewhat on soil type, the scientists say that an acre of land can lose five tons of soil per year to erosion without any permanent harm. The five-ton "tolerance value" sounds enormous, but spread over an acre it amounts to a layer only a fraction of an inch deep. That amount of soil loss is matched by formation of new topsoil and other processes of nature, so that productivity is maintained.

James Risser, the Des Moines Register*'s Washington Bureau chief, has won two Pulitzer prizes for his articles on agriculture. He is writing a book about the impact of modern farming on the environment.*

Plowing of hilly grassland near Reelfoot Lake, Tennessee, spurs pollution by eroded soil, chemicals.

What scares the experts today is that in many agricultural regions of the United States, the erosion rate is far above tolerance. Varying studies show the average erosion figure to be somewhere between five and nine tons per acre, but in some crucial farm areas the rate is strikingly higher. The soil is leaving the land at a record pace not only in rich farm states like Iowa, but also in the East, the South and the Pacific Northwest. In some places, virtually all the topsoil has washed away, leaving the far less productive subsoils to carry the burden of trying to produce bigger and bigger crops. Bare spots and stunted grain growth are silent testimony to the damage done to the land.

So far, farmers have been able to mask the damage by applying more and more of the chemical fertilizers that have become available in the past 30 years, but a day of reckoning may be near.

A new Agriculture Department survey warns that at current erosion rates, corn and soybean yields in the Corn-Belt states may drop by as much as 30 percent in the next 50 years as the fertility of the soil declines.

Over the last decade, soil erosion has accelerated, while funding for federal soil conservation programs has held steady or even dropped, in the face of general inflation and to the dismay of conservationists. Agriculturalists are worried about where the United States is headed. John Timmons, an economics professor who specializes in natural resources issues at Iowa State University, doubts that the country can serve forever as grain producer for the world.

Because of new demands placed on the land by heavy crop production, "in effect, we are exporting

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Uphill battle to save eroding soil

A gully eats into flat Iowa farmland. Even more land in Iowa is lost by less visible "sheet erosion"—

our soil and water quality in the form of food and feed grains," says Timmons. "In the years ahead, soil erosion and water quality problems appear likely to replace petroleum as the nation's most critical natural resource problem."

When soil erodes from fields, it does not simply move to another spot on the farm. Some does, but much of it ends up in roadside ditches and, more important, in streams, rivers and lakes. Agriculture thus has become the single biggest polluter in two-thirds of the U.S. river basins. Eroding soil fills reservoirs with silt, impairing or ending their use for recreation and water supply. It clogs streams, kills fish and damages water purity.

"It's a simple process," says William H. Greiner, longtime conservationist and former executive vice president of the Soil Conservation Society of America. "You put chemicals on the farmlands. They attach themselves to soil particles. When the soil moves off the farm, the chemicals move with it. Thirty-five to 40 years ago, the pollution problem from farm erosion was mainly just sediment and livestock waste, but now it's chemicals, too."

Unless farm-caused water pollution is sharply curtailed, clean water goals ordered by Congress for this decade simply cannot be achieved.

Nowhere is this more dramatically obvious than in the rich but fragile land of the western Tennessee counties bordering the Mississippi River. The destruction there is perhaps the most visible and spectacular example of a nationwide threat that in most places is unseen by all but the trained observer. There, cropland erosion now averages 30 to 40 tons per acre each year—ten times the permissible loss. And that is an average; on some farms soil losses of 150 tons per acre have been measured.

The main cause is an almost total shift away from grazing livestock on pastureland, as the cattle industry has moved to centralized feedlots in the Midwest and Southwest and as Tennessee farmers began all-out production of more profitable soybeans—more profitable in the short run at least, but much harder on the land.

On Bill McClure's 130-year-old farm, an original topsoil layer of nearly three feet has diminished to barely more than six inches. The entire western end of the state—including the Wolf, the Obion, the Forked Deer and the Hatchie watersheds—is turning into an ecological disaster area, in a downward spiral of erosion, silted streams, flooding, more erosion, more silting.

In northwestern Tennessee, the land surrounding beautiful Reelfoot Lake used to be primarily grassland. Since it was converted to grain production a few years ago, soil and chemicals have damaged the lake so badly that the Agriculture Department was forced to come up with a $4.7 million project last year to provide farmers incentive voluntarily to practice conservation measures on their land.

In Shelby County, which includes Memphis, about 150,000 acres of cropland are estimated to be suffering from severe erosion problems. Promoting conservation

the runoff of a thin top layer of soil. Hilly parts of state are losing an inch of topsoil every 12 years.

Iowa topsoil provides America's richest cropland, but half of it has washed away in a century of farming.

practices that would bring the soil loss down to "tolerance value" would cost about $100 per acre, or a total of $15 million. Even with the several hundred million dollars provided by federal soil conservation programs, no single Tennessee county is going to get anything like $15 million, and most farmers are not financially able to do the job themselves. They have been caught up in the runaway growth of an American food-production machine and an inflation spiral in prices and may be mortgaging the future for quick profits today.

In Shelby, Iowa, Ervin Koos has farmed his hilly, western Iowa land for almost 30 years, and has been another eyewitness to the transition from grass-covered hills dotted with cattle to high-technology, intensive grain production—and to erosion.

If Iowa's erosion is not as visually stunning as Tennessee's, it is perhaps more serious, for this is America's richest cropland. One-fifth of the entire U.S. corn crop and 15 percent of the soybean harvest come from this one state. When Iowa first was plowed and planted, about 100 years ago, it was covered with rich, black topsoil to an average depth of 16 inches. Now there are only eight inches—half the topsoil gone in a century, washed down the Missouri and the Mississippi rivers to the Delta and into the Gulf of Mexico.

"The farmers around here all realize the problem," says Koos, "but today's economy is such that big machinery, labor costs and high prices all say to the young farmer, 'You've got to go as hard as you can, over as much land as you can, just to make ends meet.' And that doesn't lead to good land management. They're educated about conservation, but education doesn't put it on the land; money does."

Koos, nearing retirement himself, invites a visitor on a tractor ride through his fields, pointing out the soil-holding terraces he began installing in 1951 at a cost of seven cents a foot, a cost that nowadays would be closer to a dollar. Had he not started in conservation work at the beginning and gradually added to it, even a successful farmer like Koos would be hard-pressed to begin today to practice conservation.

Even in central Iowa, which is not particularly hilly, the constant pressure on the land from planting corn and soybeans season after season, without respite, can be seen after a moderate rainstorm. Wide swaths of mud move down the slopes like black glaciers, ripping out corn and soybean seedlings, piling up feet thick in roadside ditches and polluting waterways.

Iowa may be the most progressive state in the nation in soil conservation work, but it's not enough, and there is more and more feeling that the era of voluntary conservation efforts has been a failure.

When the Dust Bowl swept the Midwest in the Thirties, the West Coast was a haven to many of the refugee farmers. Now erosion has followed them there. In places like the Palouse basin of southeast Washington, farmers greet each spring with a mixture of hope and fear—hope that their bountiful, undulating land will once again produce a bumper wheat crop, and fear that it will succumb to another round of severe soil erosion.

The Palouse basin, a region of almost eerie beauty named for the river that drains it and for the Indians who once roamed its hills, loses 17 million tons of soil a year from its million acres of cropland. Most of it occurs in a month or two, when melting snow soaks and strips soil from farmlands cultivated in the fall and left bare through the winter.

Rivulets and gullies carved into hillsides testify to the power of the draining water (p. 130). Some hillsides become so saturated that huge sections of soil, dozens of feet across, break away and slide down the hills. The fertility of the upper slopes is reduced, and the silt smothers new crops at the foot of the hills.

Half the eroding soil finds its way into the streams and rivers, filling channels, turning Palouse Falls brown, clogging reservoirs, and wrecking fishing and recreation waters.

Old ways of farming die hard

Soil losses of 20 to 30 tons per acre each year are common in the Palouse, and a recent Agriculture Department study says losses of 100 to 200 tons per acre occur frequently. "Unless farming systems change, the rates are expected to increase," the study says.

"I feel sorrow for our grandchildren, for they are the ones who will pay for our folly," says Verle Kaiser, a former Soil Conservation Service official who continues, even in retirement, to conduct the soil surveys he began in the Palouse 40 years ago. A crusader for conservation, Kaiser has been witness to some of the highest soil erosion rates in the United States in a region that, paradoxically, is one of the country's most productive farm areas—producing one-tenth of the nation's soft, white winter wheat crop.

So far, the area's deep soils have been able to absorb the staggering erosion losses, but Kaiser notes that wheat yields, which climbed year after year with the introduction of farm chemicals, began to taper off and fall slowly a few years ago. Farmers in the Palouse are only beginning to realize what a bleak future may lie ahead for them—smaller crops, continuing erosion, and the threat of federal regulations to halt the area's high rate of water pollution.

Dennis Roe, district conservationist at Colfax, Washington, has begun traveling the area, meeting with any group of farmers he can find, pleading with them to give up some immediate profits in order to protect their land better. He finds farmers professing good intentions for conservation, but not doing enough about it. Old ways of cultivating the land die hard, and many farmers think that, for just one more year, they can ignore conservation and go all out, plowing and planting every square foot of their land.

An optimist, Roe thinks the farmers eventually will see the handwriting on the wall and do what's right. "I've yet to meet a farmer who's unalterably opposed to conservation," he says, "but if he doesn't adopt the best management practices, the current threat of regulation may become a reality. It's going to be a sad commentary in our history books if we have to say, 'We lost the Palouse.' "

In 1977, Congress created a new Rural Clean Water Program, designed as an innovative effort to help farmers stop farm-caused water pollution. They were to be given federal financial help in preventing their sediment, pesticides, fertilizers and animal wastes from getting into rivers and lakes. The same measures that would reduce pollution would keep valuable topsoil on the farm.

But for the next two years the vital new program languished for lack of any funds, as the administration and Congress bickered over which Agriculture Department agency should run it. The program finally got off to a crippled start, at much more modest levels of operation than were envisioned by its backers, and bureaucratic jealousies still have not died.

The controversy was typical of the problems that have beset federal soil conservation programs of the past 40 years. Surveying the programs four years ago,

Terraces and a dam are exemplary soil conservation practices that minimize erosion on western Iowa farm.

the U.S. General Accounting Office (GAO) concluded that millions of dollars in cost-sharing payments to farmers for "critically needed soil conservation practices having the best payoffs for reducing erosion" had been wasted instead on practices primarily aimed at increasing crop yields.

In random visits to 283 farms in eight states, GAO investigators found that 84 percent of the farms were suffering annual soil losses of more than five tons per acre. Worst of all, soil losses on farms that had taken part in federal conservation programs were virtually the same as losses from farms whose owners ignored the programs.

Leading farmer organizations have been of little help. Wary of all government regulation, they favor conservation programs but oppose any effort to make them mandatory. Environmental groups are only beginning to wake up to soil erosion as a pressing national problem.

In 1980, the Soil Conservation Service produced its "RCA" (Soil and Water Resources Conservation Act) report based on an extensive two-year review of the erosion threat. The report poses some tough choices for farmers and policy makers—including conservation strategies that would, for the first time, order farmers to protect their soil or lose eligibility for price supports and other federal farm aid. Such an approach, called "cross-compliance," has been pushed long and hard by some conservation advocates.

John Block, the new Secretary of Agriculture in the Reagan administration, says that soil erosion and the conversion of prime farmland to other uses together constitute "potentially the most serious problem we face." But Block, reflecting Reagan administration philosophy and the farmer's traditional independence, also explains that until farmers are given more time to show whether they can deal with the erosion problem, he does not favor a "cross-compliance" system. "And I certainly don't support regulation and heavy penalties," says the former Illinois agricultural director.

Some farmers are beginning to experiment with new ways of tilling the soil, in an effort to stop erosion. One of the most promising is "no-till" planting, in which traditional extensive plowing is abandoned and residues of the previous season's crops are left on the fields in order to help hold soil in place (p. 131). Drawbacks are the special no-till planting equipment that is needed (some of it is very expensive) and the fact that additional applications of herbicides, and sometimes other pesticides, are needed to control weeds, insects and rodents. But most conservationists consider the combination of no-till farming and the maintenance of conservation structures, such as terraces and ponds, to be a possible solution.

The recent Agriculture Department study of the Palouse basin says the right mix of conservation practices could cut erosion rates there by 40 to 60 percent, without adversely affecting farmers' income.

But there is growing feeling in the state that era of voluntary conservation efforts is a failure.

On his Shelby, Iowa, farm, Ervin Koos has seen soil conservation improve his crop yields during 30 years.

Renewed interest in often-scorned, nonchemical "organic" farming could prove to be a boon to soil conservation. An unprecedented, pro-organic farming report issued last year by the Agriculture Department says the practice can be environmentally and economically sound. Because organic farming includes use of crop rotation and ground cover, and of course only minimal use of pesticides and fertilizers, both soil productivity and water purity could be protected through resulting reductions in erosion run-off.

So there are some hopeful signs of an awakening public interest in the erosion crisis. But for the near future it looks like the economics of farm production —including government policy favoring even greater grain exports as a source of trade income—will keep the upper hand over soil protection. With President Reagan committed to chopping the federal budget, Block says "We can rule out any large, new sources of money to throw at the problem." Instead, the new Secretary plans to stress educational efforts, urging farmers to employ minimum tillage practices to lessen soil damage. "The federal government can provide some leadership and programs and money, but the solution to the problem is going to come at the local level." Whether an awareness of declining farmland productivity and the mandates of water pollution legislation will lead to a new soil conservation thrust is very much an open question.

Those struggling with that question might ponder the words of Dr. Priscilla Grew, director of the Department of Conservation for the state of California, another place where farm fields and orchards have been hard-hit by both water and wind erosion. "Where soil is lost, civilization often goes with it," she observes, taking the long view. "Today, soil is as essential for the production of food and fiber as it was during the Neolithic.

"The decline of our soils is not easily perceived," Dr. Grew points out. "It is a chronic, slow process without the urgency of an environmental crisis. Yet, soil is the basis for our very existence; it enables us to live off the rocks on their way to the sea."

In Washington's Palouse basin, soil runs off hillsides during spring thaw; losses reach 200 tons an acre.

Dennis Roe, district conservationist in Palouse area, promotes "no-till" planting as conservation measure.

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By Julia Davis

A feisty schoolmarm made the lawyers sit up and take notice

Toppling barriers, Belva Lockwood won fight to practice before Supreme Court, in 1884 ran for President

In the 1840s a little farm girl in western New York State tried to move a mountain. She had already attempted to walk on water, earning only wet pantalets and a scolding, and to raise from the grave the child of a neighbor (how pleased they would be!). She was ready to admit that these accomplishments might be reserved for special people, but it said in the Bible that one with "faith as a grain of mustard seed" could move mountains, and she had faith. For an entire afternoon she directed her order of removal to a small hill. Not a rock shifted, not a pebble rolled. Nevertheless, she was to say in later life, "Since that time I have learned how to remove a mountain, and have removed several."

Indeed she had. Belva Ann Lockwood was one of the first women in the United States to study and practice law, the first to argue a case before the U.S. Supreme Court, the first to appear on the ballot and campaign actively in a Presidential election—the self-propelled and seductive Victoria Woodhull (SMITHSONIAN, October 1977), nominated 12 years earlier, was ineligible, not having reached the constitutionally mandated age of 35.

Belva described herself as having been a "little dirty-faced girl . . . not afraid of snakes or rats or nothing, as active as a boy and could walk rail fences for a mile and never drop off . . . and delighted to ride the horses after the cows."

Born in 1830 to Lewis and Hannah Bennett near Royalton in Niagara County, she went to the one-room country school, where children had to "toe the

National Portrait Gallery

Belva's portrait in an academic robe, unveiled in Red Room of Washington's New Willard in 1913, was tribute to women's progress in the 20th century.

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Wheeling about on her tricycle, she was occasionally soaked by cloudbursts.

mark" with their stubby boots on a chalk line so they wouldn't wiggle while reciting. Graduating at 14, she started teaching in the same school for $5 a month and board. When she found the male teachers received twice as much, she was furious. "I kicked to the school trustees. I went to the wife of the Methodist minister. The answer I received opened my eyes and raised my dander: 'I can't help you; you cannot help yourself, for it is the way of the world.'" It was a way that Belva meant to change.

"An ardent student of history, I soon discovered that most of the great men of the country had received a collegiate education. I also discovered that the colleges of the country were closed to women. What could a simple country girl do? . . . There was only one avenue open to her . . . *marriage*." And so at 18 she married a nice young farmer, Uriah McNall, "and directly adopted the unwomanly habit of pursuing my studies. . . ." At 22 she was a widow, with a daughter, Lura, to support.

Teaching seemed the only profession open to her, but to receive a decent salary she needed more education. Leaving Lura with her parents, she prepared for Genesee College, at last open to women.

When she applied, the president looked over his glasses and asked whether she intended to finish the course, what she meant to make of herself "and other impudent questions." But he accepted her, and in 1854 she enrolled.

She had not committed herself to an easy life. At seven, breakfast (no talking at table), followed by four hours of recitation, study all afternoon and evening, the only recreation a walk after the evening meal. To the great displeasure of Genesee College, Belva also attended lectures given by a young lawyer in town.

Application paid off, for when she got her B.A.—in three years—she was chosen preceptress, or principal, of Lockport Union School. It had 600 pupils. Her salary would be $400 a year (her male assistants got as much as $600). She would teach higher mathematics, rhetoric, logic and botany while giving an example of "benevolence, sobriety, industry, frugality, chastity, moderation, temperance and all other virtues which are the ornaments of human society." Best of all, now she could reclaim her daughter.

Belva set about stirring up meetings of the state education association with essays and debates on the newest and best methods of teaching. Another vociferous lady was Susan B. Anthony, a handsome young Quaker just beginning to battle for women's suffrage. They would appear together later on many platforms.

As preceptress in Lockport, Belva introduced such innovations for young ladies as gymnastics (unfeminine), nature walks (absurd) and *public speaking*. The latter was so unheard of that she made sure her girls were up to the challenge by having them declaim to her in private before they appeared in public.

By 1863 she owned and ran a young ladies' seminary in Owego, New York. Although a pacifist, she felt everyone should share in the Civil War effort, organizing her students to sew cotton hickory and wool shirts, knapsacks and "housewifes," or sewing kits, for the soldiers. But as soon as peace came she remarked tartly that every slave in the South could have been bought and freed for less than the cost of the struggle.

Now, she was ready for broader fields. In 1866 she sold her school for a tidy profit and she and her daughter moved to Washington, then teeming with the excitement and quarrels of Reconstruction. Soon ready to start her own school—

Julia Davis' 21st book, Never Say Die, *published last August (American History Press) is history of her mother's family.*

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Guy Mountfort, founder of The World Wildlife Fund
Foreword by Sir Peter Scott, Chairman of The World Wildlife Fund

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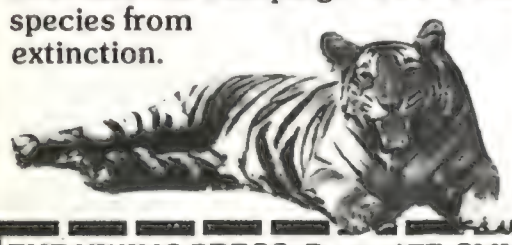

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A solemn Belva sported gold watch chain in photograph taken around 1885.

one of the first private coeducational schools in the city—she made it pay by renting out rooms for evening meetings of liberal causes. There was no lack of pupils. Even the wife of a South American diplomat called to her from a carriage, like a veiled lady in a novel, hesitant to be seen entering a school so advanced; nevertheless, she hoped to enroll her daughters.

But Belva did not relish a lifetime as a schoolmarm. Using every hour she could spare to attend courts and Congress and observe government in action, she hungered to be a part of it all. The consulship in Ghent was vacant; why wasn't she just the one to fill it? She brushed up her languages, boned up on international law and the consular manual. It was a blow when her application was not even acknowledged.

In 1868, saying she "committed the indiscretion so common to women of this country," she married Dr. Ezekiel Lockwood, a dentist and Baptist minister who had been chaplain for the 2nd District of Columbia Regiment. After the war he became a claims agent to help his old soldiers battle a government indifferent to their needs. He was 65, Belva 38.

Reading the biographies of famous men had persuaded her that "law has been the stepping-stone to greatness." And so once again, in 1870, she prepared for a walk on water. She would become

a lawyer. But where could she study? Columbian College turned her down—her presence might distract the young men. Belva, now 40, found this ridiculous. Finally the new National University Law School (since absorbed into George Washington University's National Law Center) accepted her and 14 other women, only one of whom finished the course with her. But they were not to have their diplomas—male students objected to graduating with women.

The other woman shrugged and got married. Belva protested in vain to administration and trustees. She then got a colleague to move her admission to the bar of the District of Columbia Supreme Court (forerunner of its Court of Appeals). She submitted to a three-day examination. The examining committee made no report. Some weeks later she entered a complaint with Chief Judge David K. Cartter and was again examined. Again, no report.

A diploma from President Grant

While waiting, she went South to campaign for abolitionist Horace Greeley, 1872 Presidential candidate of the Liberal Republicans. It was a blow to her optimism that her trip, although "reasonably successful . . . did not elect Greeley." In that same year Susan B. Anthony was jailed and fined for trying to vote. Women were on the move.

Back in Washington, Belva learned that she would be permitted to practice only in Police Court, Probate Court and before Justices of the Peace. She needed that diploma. She wrote to President Grant, ex officio head of National University. "Sir: you are or you are not President of the National University Law School. If you are . . . I desire to say to you that I have passed through the curriculum of study . . . and am entitled to, and *demand*, my diploma. If you are not . . . then I ask that you take your name from its papers, and not hold out to the world to be what you are not." President Grant made no reply, but two weeks later she received a signed diploma. At last she could practice in the D.C. Supreme Court.

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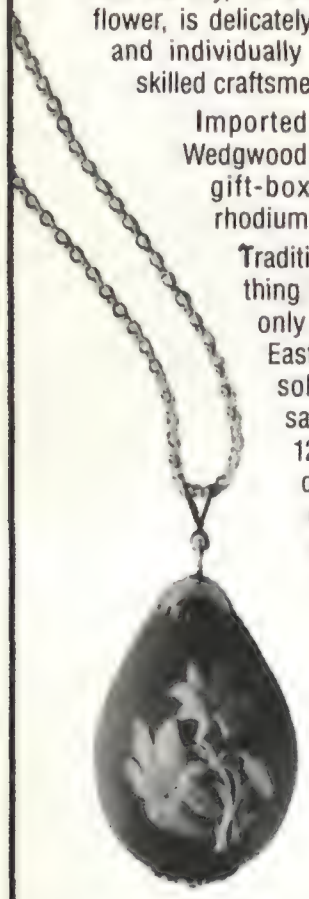

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The Puck Papers Collection/Richard Samuel West

Cover of *Puck*, October 17, 1884, showed "political Columbine" Belva joyously propelled into race, to discomfiture of "political clown" Benjamin F. Butler.

"civil, equitable or criminal." In 1874, with a case to file in the U.S. Court of Claims, she once again found a colleague to move her admission. Immediately, Chief Judge Charles D. Drake intoned: "Mistress Lockwood, you are a *woman*."

"For the first time in my life I began to realize that it was a crime to be a woman, but it was too late to put in a denial, so I pled guilty." Her application was held over.

When she next presented herself she took the precaution of bringing along Dr. Lockwood. "Mistress Lockwood, you are a *married woman*." The justice was referring to the theory of common law which held that married women were subject to their husbands, therefore had no legal authority to act independently. "I am here with the consent of my husband." Lockwood rose, bowing his approval. Again, a continuance. In the end the justices reported that they were "without power to grant her claim."

"Of course this was a squelcher," but Belva was not easily squelched. However, it was humiliating to have to hire a male lawyer to plead her client's case and hear him "saying very badly in three days what I could have said well in one hour." To top it all, they lost.

By this time Belva Lockwood was well known in Washington. Just above medium height, brown-haired, dark-eyed, she dressed conservatively. Not for her the pants of Dr. Mary Walker (SMITHSONIAN, March 1977), but a plain black velvet dress with neat tulle ruching at neck and wrist, a blue cloth coat buttoned at the waist, black kid gloves and always a gold brooch in the form of scissors and a thimble. She had, however, as she hurried from court to court, adopted a method of transportation simpler than a horse and cheaper than a carriage. She pedaled about briskly on a tricycle. This, in a day when women were supposed to skim over the ground without appearing to use their legs, caused astonishment close to scandal.

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With supporters like the Belva Lockwood Club of Rahway, New Jersey, she hardly

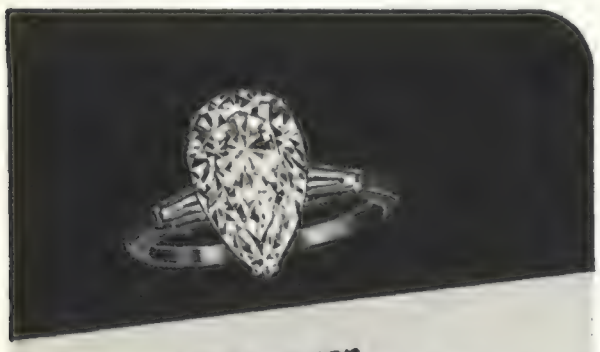
month, no mean sum in those days. Her most notable case resulted in a $5 million settlement for the Cherokee Indians in a claim against the U.S. government. Her law office became a meeting place for leaders in the women's movement.

The Court of Claims case was appealed to the U.S. Supreme Court where, in order to practice, one had to be an attorney in good standing and have practiced at least three years in a state or territory's highest court—in Belva's case, the Supreme Court of the District of Columbia. She was qualified, but was turned down with two dissents. "As this court knows no English precedent for the admission of women to the bar, it declines to admit, unless there shall be a more extended public opinion, or special legislation."

Special legislation she would have. She persuaded Representative Benjamin F. Butler, a champion of women's rights, to submit a bill to the House Judiciary Committee. It passed there, but lost on third reading in the House. The next bill didn't even reach the floor.

Newspaper reporters, who had found her both newsworthy and amuseworthy, came to ask what she would do next.

"Get up a fight all along the line," said Belva. Her pluck impressed them. "We are going to help you out this time," they told her, and they did, making sure that



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needed enemies, but later credited one such group with having done good work.

her efforts were well covered in the press.

And so it was mountain-moving time once more. She drafted a bill herself and argued it before the Judiciary Committee. It passed the House. When she got word the bill was to come up in the Senate, she whirled off on her wheels to buttonhole Senators in the corridors of the Capitol, talking to them "as though they were old familiar friends." Her good-humored approach won over enough Senators to get the bill passed on February 7, 1879. Soon after, it was signed by President Rutherford B. Hayes.

The following month she was admitted to practice before the Supreme Court of the United States. The courts of Maryland and Massachusetts followed suit, as well as the recalcitrant Court of Claims, but it was 14 years before her native New York came round.

With Belva, to have was to share. One of her first acts before the Supreme Court was to present for admission to practice Samuel R. Lowery, a black, the fourth of his race and the first from the South to be admitted.

With her personal battle won, Mistress Lockwood now had more time to fight for women's rights. In 1880 she spoke at a meeting chaired by Susan B. Anthony. Quoting "We, the people," from the Declaration of Independence, she said

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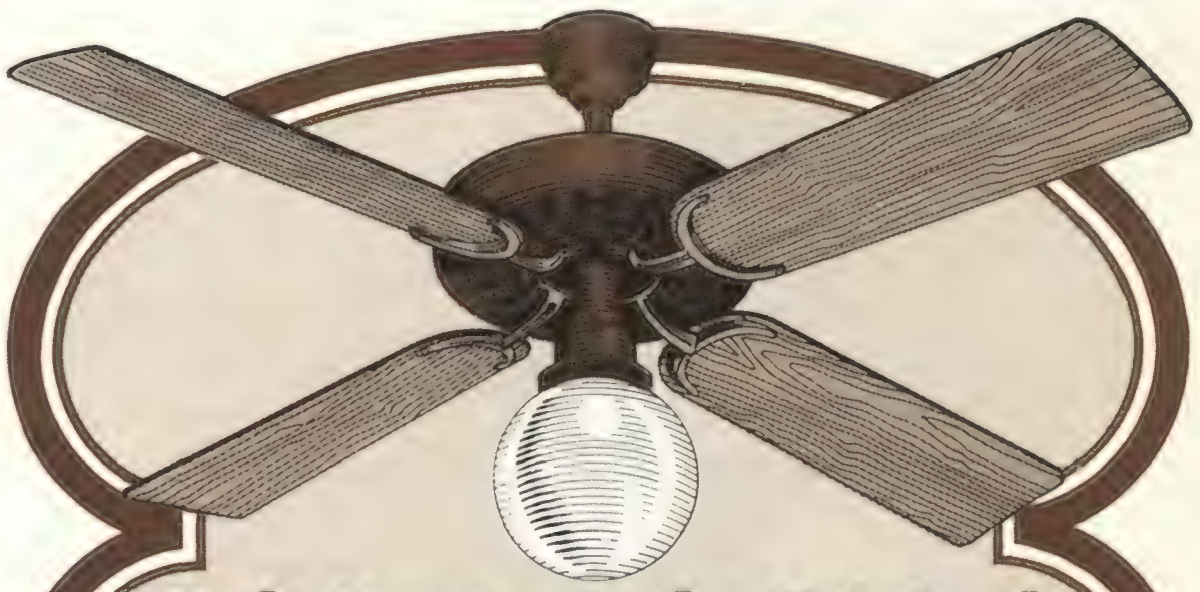

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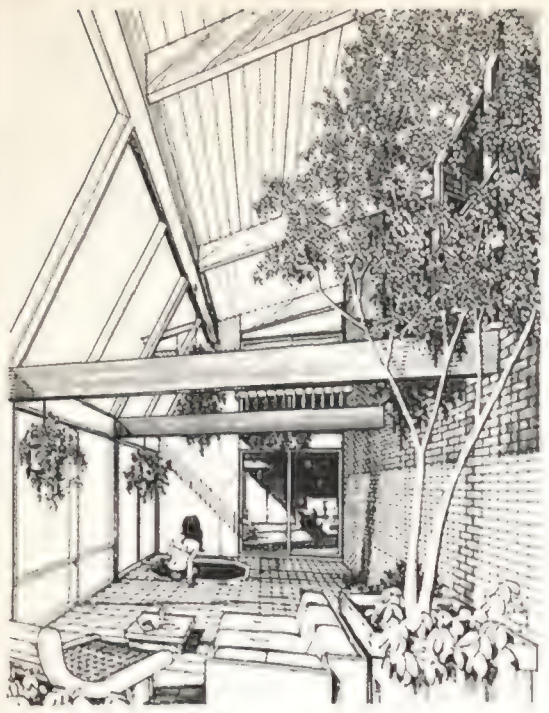

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she had never heard of a "people" made up of men alone. "There are 10,500,000 male voters in the United States and 12,500,000 women property owners. Should they not have something to say about what is done with the taxes they pay? If the Constitution does not allow women to vote, then the Constitution should be amended or ABOLISHED!"

At the Republican convention of 1884 she was unable to get any commitment for women into the platform. She was outraged when Elizabeth Cady Stanton and Susan B. Anthony, believing women could work better through an established party, urged followers to vote for Republican nominee, James G. Blaine.

Belva wrote to Marietta Stow, editor of *The Woman's Herald of Industry*, suggesting that even if women had no vote they could be voted for, and should be nominated for high office, even the Presidency. Mrs. Stow printed the letter with approving comments, and in faraway California the National Equal Rights Party of the Pacific Slope nominated Belva Ann Lockwood as their Presidential candidate.

They broke the news in a letter that struck her "like a clap of thunder from a clear sky." Given her temperament, acceptance was inevitable. She tricycled off to mail her reply, stopping to file some papers in the D.C. Supreme Court.

"Mrs. Lockwood," said the clerk, "you ought to vote for Ben Butler."

"Why?"

"He is a woman suffragist, a temperance man and a labor reformer."

Swearing him to secrecy, Belva confided, "Clancy, I've got a nomination myself." The clerk roared. "That's the best joke of the season!"

Undaunted, Belva sped away to mail her acceptance: "Now . . . let us see what a few earnest, capable women can do." She urged her backers in California to hold a state convention. "If we can get one elector [in the] electoral college this campaign of our Equal Rights Party will pass into the history of 1884, and become the entering wedge—the first practical movement in the history of Woman Suffrage. . . ."

Reporters flocked to her office. In haste, she tossed off a platform from her rough notes. A forward-looking document, it contained the reforms she had espoused for so long. In addition to "equal and exact justice to every class of our citizens, without distinction of color, sex or nationality" (mentioning specifically the American Indian), she pledged to work for universal peace, economic recovery through trade, veterans' benefits and prohibition, to reduce the public debt, oppose monopoly, promote uniform laws throughout the states, revive the industrial potential of the South and East while developing natural resources in the West and Midwest, reform civil service and encourage homesteading.

Susan B. Anthony remarked cattily that Vice Presidential candidate Stow had duped Belva and engineered the whole thing for her own promotion, but nevertheless it had "served to educate the people up to the idea of women candidates for high places of public trust." Some attacks from members of her Na-

The Oakland Museum

Pictures of the redoubtable candidates on this California ballot made secret vote for Lockwood and Stow impossible. In some states ballots had to be signed.

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tional Woman Suffrage Association verged on vituperation. "Matters looked a little squally," Belva commented, "but no chance for any back step."

A group of women held a ratification meeting at a Maryland farm. There were speeches and a picnic under the trees. Belva's mother and Lura were there. Reporters came, and next day the meeting got wide coverage in the Washington and Baltimore papers. "With embellishments," Belva recalled later.

The other candidates in 1884 were Republican James G. Blaine, Democrat Grover Cleveland, Prohibitionist John P. St. John and Benjamin Butler, nominated by both the Greenback and Anti-Monopoly parties. In those days campaigning was rough. Citizens pranced in torchlight processions chanting slogans such as "Blaine, Blaine, James G. Blaine, A continental liar from the State of Maine," or, regarding Cleveland's illegitimate child, "Ma, Ma, where's my Pa? He's gone to the White House, ha-ha-ha!"

The newspapers found Belva good for a laugh any day. The *Philadelphia Press* reported that she "would organize an administration a la Pompadour, cut bias with two rows of knife-blade pleating down the front." Her old hometown paper, the *Lockport Daily Journal* claimed that she planned to spruce up the White House with "a new terra cotta pug dog in the hall, and a folding mirror in

The Oakland Museum

Quaint ballot box, Stow family heirloom, was used in California in 1882, 1884.

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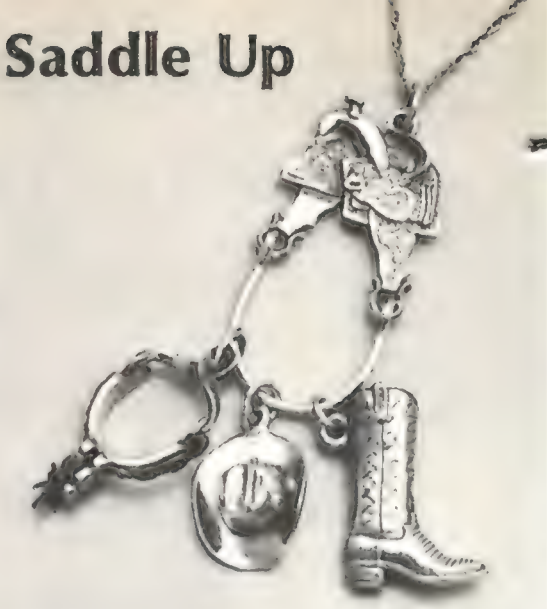

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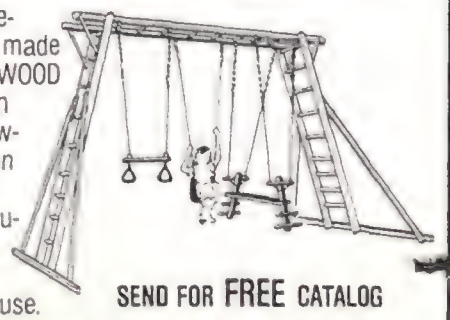

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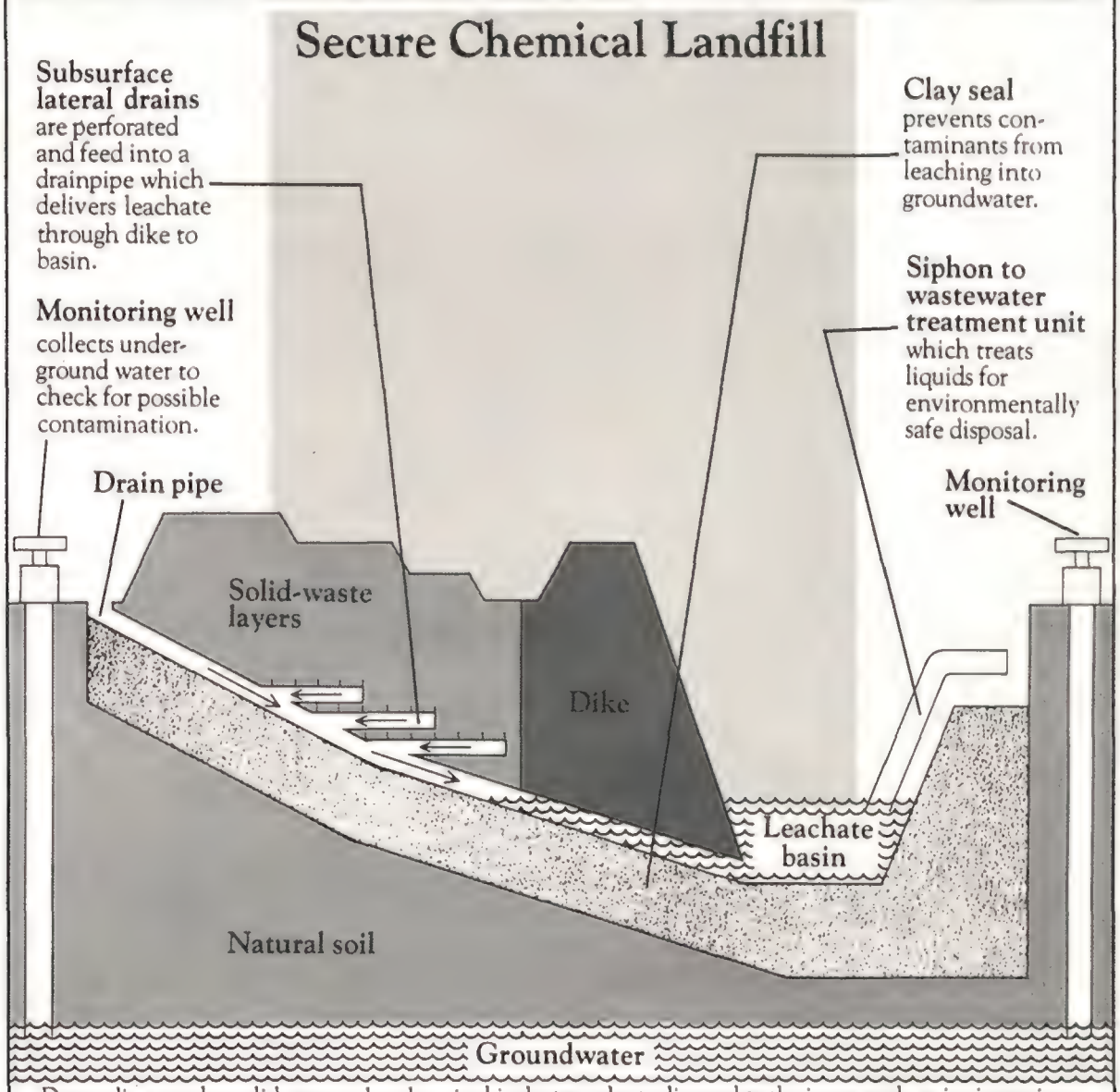
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Christmas, 1884. Cleveland had won, *Puck* poked fun at losers Belva, Butler.

each room." "Belva Lockwood is asking the men to support her, the immodest minx!" trumpeted the Rochester *Post-Express*. The *Burlington* [Iowa] *Hawk-Eye* warned that "Belva doesn't tap any barrel [but if] elected she will open a paper bag of marshmallows and a box of caramels." And the Lockport *Daily Union*'s salute was some doggerel: "My soul is tired of politics/ Its vicious ways, its knavish tricks;/ I will not vote for any man/ But whoop it up for Belva Ann."

Even certain lighthearted supporters were a bit of a trial. Bands of young men wearing Mother Hubbards and sunbonnets took to the streets with brooms, symbolizing "A Clean Sweep." In Terre Haute, Indiana, they "actually did some creditable work," Belva wrote.

To only one slander did she permit herself a public reply. A snide article in the *New York World* claimed that her childhood name was Tillie Wilkins and that she had "been several women in her day," implying she had left her first husband to marry Lockwood. Straightaway Belva wrote the editor: "Both of my husbands were good men, kind and devoted husbands, lived honored and respected and died lamented, and I trust I shall never cast dishonor upon their memory."

She campaigned widely, speaking cogently in defense of her platform. She received 4,149 votes in six states—all, of course, cast by men. In Pennsylvania her ballots were dumped into wastebaskets. Her greatest satisfaction was that Indiana's electors, after casting their vote for

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Cleveland, wanted to switch to Lockwood. To her disappointment, this was disallowed.

Four years later the Equal Rights Party again nominated her, and again she campaigned tirelessly—if less successfully—ignoring the jibes and jingoes of the nation's press. The Washington, D.C. *Morning Journal* honored her with seven stanzas titled *Belva, Dear! Belva, Dear!*, one of which ran: "When our votes for you are cast/ Belva, dear; Belva, dear;/ Will you tax the bustle vast,/ Belva, dear; Belva, dear?/ Will you place a tariff high,/ On the hosiery we buy?/ We await your calm reply,/ Belva, dear; Belva,dear!"

Her personal life was marked by recurring tragedy. The infant daughter born to her and Lockwood died. In 1875 a severe stroke rendered her husband helpless; he survived for three years. And in 1894 she lost her beloved—now widowed—Lura. Again Belva was left with a child to support—a teen-age grandson.

Honors at home and abroad

After her Presidential campaigns she remained active for nearly 30 years. She was especially proud of securing bounties for sailors and marines, lobbying through Congress a bill mandating that women in government should receive equal pay with men for equal work, effecting prison reform for women, and of her part in securing passage of the Joint Resolution which became the Sherman Act.

Between 1880 and 1906 she was a delegate to international peace conferences in Paris, London, Bern and Milan, delivering papers on disarmament and arbitration and sending articles to the *New York World*. The State Department sent her to the International Congress of Charities and Corrections in Geneva. Syracuse University, which had merged with Genesee College, gave her an honorary LLD. And she was elected president of the Woman's National Press Association.

She augmented her income by lecturing, so successfully that her agent suggested she give it her full attention, leaving the law to "those who can do nothing else." "An intellectual treat," said the *Brooklyn Daily Eagle* of her talk on "Tendencies of Parties and Governments," adding "brains are what Belva is troubled with." She brought down the house in Boston when she told her audience: "I am a practical woman. If I can't

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get what I want, I take what I can get." One of her greatest crowd pleasers was "Is Marriage a Failure? No, Sir!"

She continued working for women's rights. In 1914 the Congressional Union, a suffragist organization which later became the National Women's Party, presented a resolution to Congress. Belva, at 83, stood at the head of the Capitol steps to receive them and march in with them. Although she did not live to see the 19th, or women's suffrage, Amendment go through, she felt their cause was won. So many states had admitted women to the polls the rest were sure to follow.

To the last an iconoclast, as she moved into the 20th century she went beyond mere votes for women to a stand more like that of Women's Liberation today. She reminded women that increased power meant increased responsibility. She maintained that girls would never develop their full potential until they were educated to support themselves as a matter of course, and were asked, just as boys were, "what are you going to do when you grow up?" After marriage they should share in the expense of educating their children.

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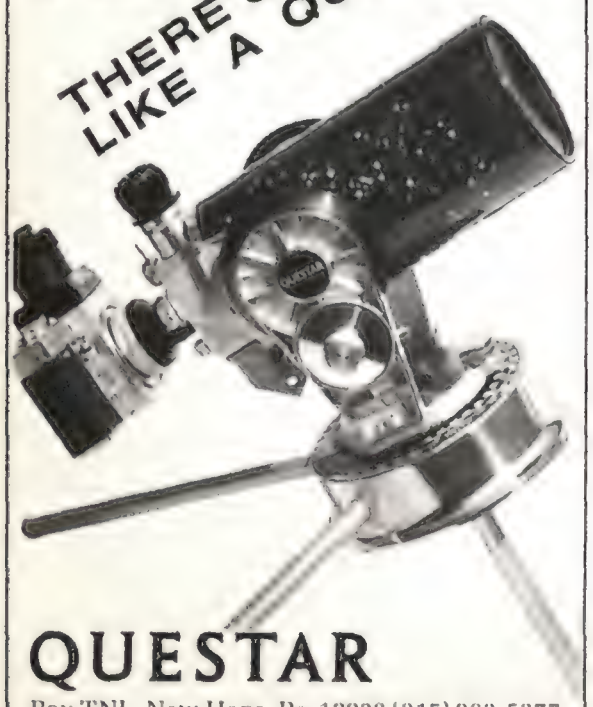

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Book reviews

Walt Whitman: A Life
Justin Kaplan
(Simon & Schuster, $15)

The vision most Americans have of Walt Whitman is one of an elderly, bearded man, a bard if you will. If ever a growing America had a true bard, it was Walt Whitman. And just as it is impossible to think of Robert Frost as a young man, the Whitman we envision, and think we know, was old, knowing, crafty and infinitely wise.

This latest and important biography of Whitman begins not at the crib but with the final years of his life. We first confront a 65-year-old man moving into his own house in Camden, New Jersey, in 1884. He is cranky, eccentric, living by himself and under his own roof for the first time amid enormous chaos, presumably still lazy, or at least loafing—"I loafe and invite my soul"—and still meditating on his masterpiece, *Leaves of Grass*, first published in 1855.

We live with him during the last eight years of his life and by the time of his death, in 1892, are so fascinated by the man and his final years that we are anxious to see how it all started. By chapter three we begin, in chronological detail, with his birth in a Long Island farmhouse in 1819 and pass through the turbulent mid-century America of the Civil War amid Whitman's varied activities in New York, Brooklyn, New Orleans and Washington, D.C.

Now biographers, and Justin Kaplan is clearly (witness his Pulitzer- and National Book Award-winning *Mr. Clemens and Mark Twain*) one of our preeminent literary biographers, can begin

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Private gifts, such as wills and bequests, as well as life-income gifts, have historically supplemented the appropriations of Congress in support of Smithsonian activities.

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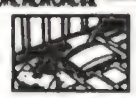

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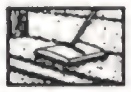

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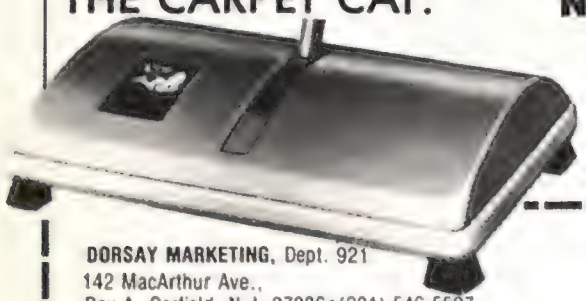

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their books anywhere, and often do. But the particular genius of this arrangement is that by knowing Whitman in his final years, we can easily acclimate ourselves to what went before. (Biographers of Frost, incidentally, could take a cue from Kaplan; only by understanding that poet's particular striving for attention and his massive ego can we appreciate his early, overlooked years.)

Kaplan's structure gives him an early opportunity to introduce Ralph Waldo Emerson's famous letter to Whitman, hailing the first edition of *Leaves of Grass* as "the most extraordinary piece of wit & wisdom that America has yet contributed," and other praise to make a younger poet jump for joy. Emerson wondered, too, in his letter, what lay in the "long foreground" of "such a start" to a "great career."

And since Kaplan has assiduously

The "expression of benignity" in this picture, probably 1860, "piqued" poet.

warned us of Whitman's various excesses, we can understand if not accept how the poet immediately rushed to publish Emerson's letter without getting permission to do so and then lost the letter itself for several years. And how, because of his preoccupation with death, he invested large amounts of money into the erection

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Louis Armstrong and Earl Hines, 1928 About this album, *Stereo Review* said "...the civilized person will simply have to own a copy." 32 selections document a most fruitful collaboration between trumpeter Armstrong and pianist Hines, including *Weather Bird, West End Blues, Chicago Breakdown, Tight Like This,* and 28 more! A 2-LP Set, $10.98 ($9.88—Associates)

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of a massive tomb, and mausoleum for his family, all under the single name of "Walt Whitman."

Buoyant, cocky, always pushing forward, prophetic, vulnerable and sensitive, Whitman wanted to love all men and mankind. Embracing the New World, he became a kind of American Christ for Manhattan. As Virgil was for Rome, Dante for medieval Europe, Shakespeare for Elizabethan England, Goethe for modern Europe, Whitman was an American original.

Walt Whitman, A Life is a magnificent accomplishment. We now have a believable public and private Whitman. We can appreciate anew his conscientious breaking away from traditional forms. He became one of America's first modernists, preceding by several decades other breakthroughs in the visual arts, architecture and music. In a long line of American poets who have subsequently altered traditional structures, Whitman remains the master. In spite of massive confusion that surrounded his private life, he always seemed to know what he was doing in his work. He was creating a biography of his soul, a deep and complex psychological unity. If he mystified people, he had nonetheless warned his readers:

"Whoever you are holding me now in hand,/ Without one thing all will be useless,/ I give you fair warning before you attempt me further,/ I am not what you supposed, but far different."

Through these wonderfully vivid pages of Kaplan's, we now have, it is safe to say, a very complete and comprehensive life of Whitman. We can go to the poetry, with our new understanding and appreciation of a complex, unique American bard, and begin, for the first or the hundredth time, to lose ourselves in the magnanimous body of his work:

I hear America singing,
The varied carols I hear.

William Claire
Washington poet, editor of *The Essays of Mark van Doren*

The Peregrine Falcon
Derek Ratcliffe
(Buteo Books, $42.50)

The peregrine falcon is one of the most thrilling birds in the world. There are few sights that rival a peregrine stooping on a teal, at speeds approaching 200 miles per hour, and literally knocking it out of the air. Falconry has long been considered the sport of kings in Europe and continues in the domains of rich Arab sheiks even today.

Because this sleek raptor, which feeds almost exclusively on birds, is the final link in a long food chain, it has consumed carcasses in which DDT and various toxic chemical residues were concentrated. Peregrine eggs in areas of high pesticide use thinned to the point that incubating hens crushed them, and the embryos in those that were not crushed were deformed or poisoned. In most parts of the world peregrines declined precipitously and our eastern forest peregrine, the "Duck Hawk," disappeared entirely during the 1950s and '60s. The cries of peregrines were heard no more over the Hudson River and Potomac River palisades, where aeries had been continuously occupied for years. Similar declines were documented in Britain and Europe. All was not lost, however—the North American

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tundra, Rocky Mountains and West Coast populations survived, although they too showed declines. Happily, pesticide use is now regulated in our country.

In the last few years hope for a replacement for our eastern peregrine has come in the form of an imaginative breeding and release program started at Cornell University (SMITHSONIAN, December 1978). During last summer five young peregrines were released from the south tower of the old Smithsonian castle (SMITHSONIAN, September 1980). At the end of the summer they left for points south on migration, where they may encounter DDT that is still used for agriculture programs in Central and South America. We hope the survivors may return next year to terrorize the hoards of feral pigeons on the Mall and perhaps to settle once again and nest on the Smithsonian towers.

Peregrine displays majesty in flight.

Derek Ratcliffe, now chief scientist of the Nature Conservancy Council in Britain, was the leader in research on peregrines, which began to decline after World War II. His name is associated with identifying pesticide residues as the cause of eggshell-thinning and reproductive decline in birds of prey, and is as well known in peregrine circles as the Americans, ecologist Joe Hickey and ornithologist Tom Cade.

Although there is a chapter on "The Pesticide Story" in his book, Ratcliffe paints a much broader picture of the peregrine falcon, concentrating on his native Britain, but bringing in information on peregrines around the world. He covers the history of Man's interactions with peregrines, their habitats, population trends, food, breeding habits, migration and ecology; he ends his book hope-

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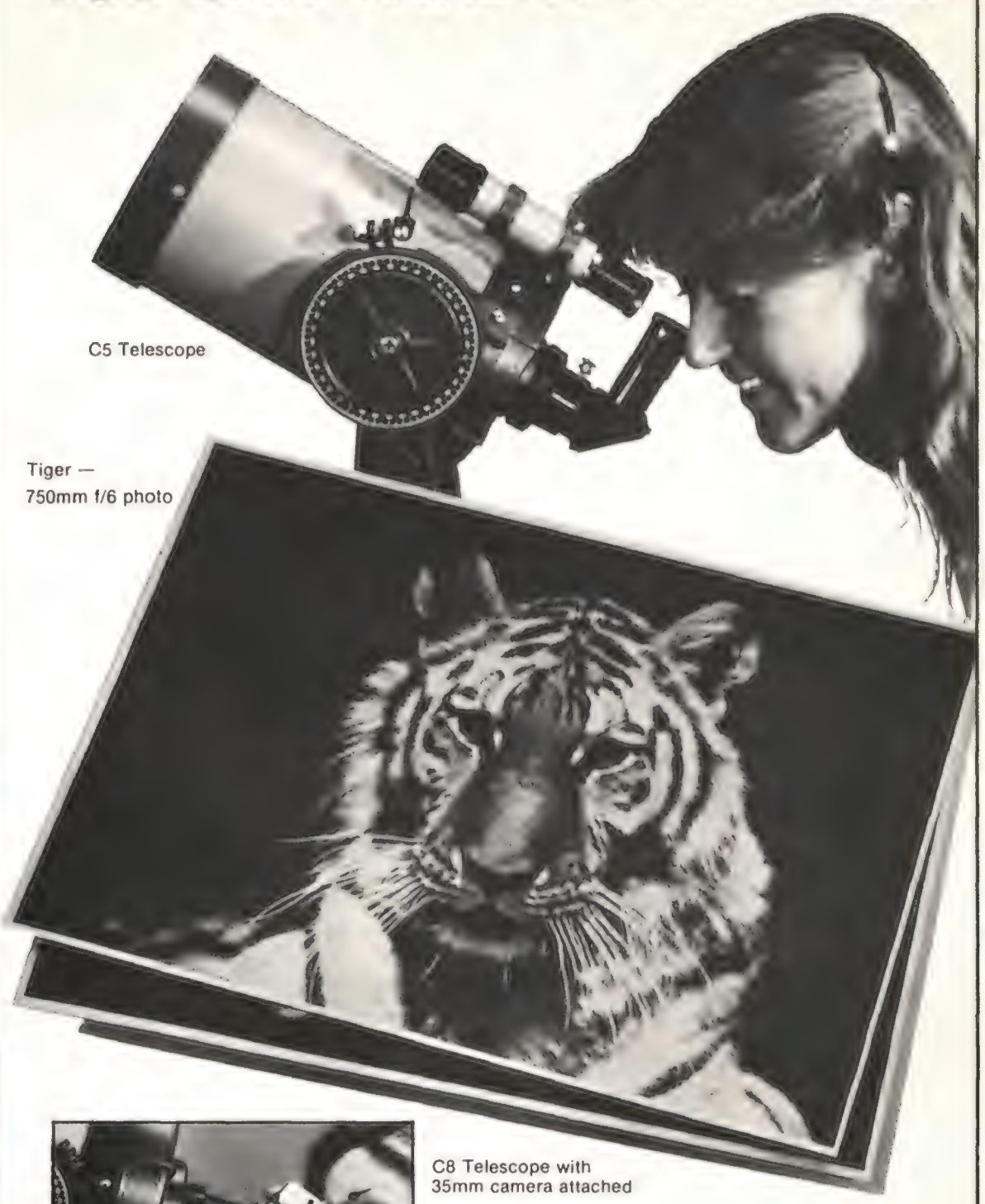

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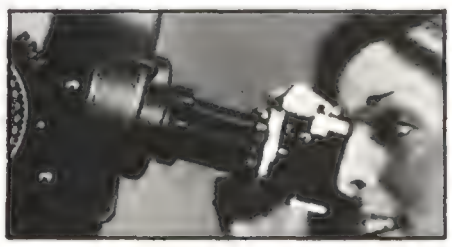

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fully with a chapter on "Conservation and the Future."

Ratcliffe writes clearly and colorfully. This is a book that can be read for technical data by the scientist, for information by the falconer and amateur ornithologist, and for a warning by the concerned environmentalist. Four color plates and many drawings by Donald Watson dress up the book, but the 31 pages of black-and-white photographs are both a delight and informative—showing the bird, its habits and habitats.

Although at $42.50 it is an expensive book, it is one to be consulted and reread. I can unreservedly recommend *The Peregrine Falcon* to anyone interested in any aspect of birds of prey or the interaction of Man and his environment. It should be required reading for those who administer lands and wildlife, not just in this country and Europe, but especially in those newer nations yet to embark on wildlife conservation. All of us still have much to learn about taking care of our natural heritage.

George E. Watson
Curator of Birds
National Museum of Natural History

Mariano Fortuny: His Life and Work
Guillermo de Osma
(Rizzoli, $37.50)

The Palazzo Orfei—now the Museo Fortuny—in Venice is a brooding brick structure on the outside and a dusty treasure trove within. Almost the only person who spends time there now is the caretaker, a little old woman who introduces visitors to such wonders, at least as she considers them, as grandiloquent academic paintings and photographs of former inhabitants on their biers.

The Palazzo is the relic of a vanished era, of Venice as the bastion of merchant princes and a dazzling artistic center. But Venice was already an archaic symbol when 18-year-old Mariano Fortuny arrived to settle there in 1889, pretty much a permanent resident until his death 60 years later.

Fortuny was, in fact, an artist of the old school and in the grand old manner, with a flair for romantic surroundings and a penchant for the past. A Renaissance man and a man in love with the Renaissance, he had little to do with the creative avant-garde and modernism of his day. As the courtly, sympathetic approach of

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Guillermo de Osma's study, *Mariano Fortuny: His Life and Work*, appropriately evokes him, Fortuny cultivated the gentlemanly mode. He could also be considered something of a magician, an alchemist and a theatrical poseur.

Fortuny's mother brought him to Venice, a carriageless city, because he was allergic to horses. She started a salon—a tradition her son continued with the likes of D'Annunzio and Eleanora Duse in attendance—and made their home, full of paintings, rare textiles and exotic artifacts, a monument to Mariano's father, the famous Spanish painter, Mariano Fortuny y Marsal, who had died in 1874 at the age of 36.

Yet the younger Fortuny, that knight of nostalgia, was also an innovator, an inventor, a photographer, stage designer and, most of all, an artist for whom textiles were the chosen medium, and whose achievements in that medium are only now being fully appreciated as art.

Fortuny was an artist—also possibly a magician, alchemist, theatrical poseur.

In addition to his fame as a dress designer, Fortuny was celebrated for important technical discoveries in the theater, such as his cyclorama backdrop and the effects of indirect lighting. Wagner was his hero, for that matter, and Fortuny's dramatic personality took eagerly to the idea of the *Gesamtkunstwerk*. The fabrics and dresses he designed were revolutionary for their time: the production meth-

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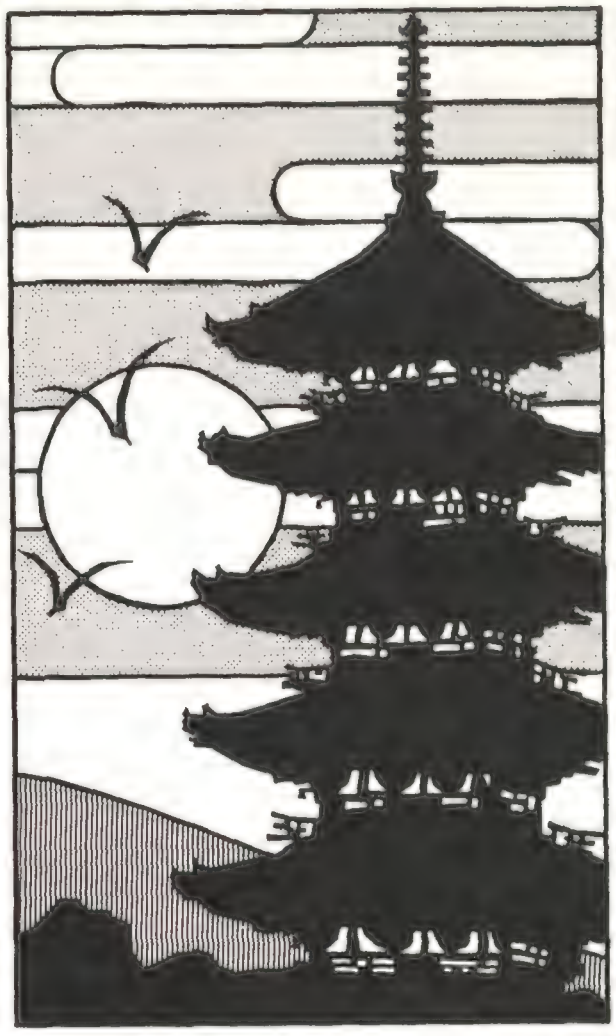

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ods he used still remain a mystery today. The most renowned was his Delphos dress, a finely pleated garment which, in the way it clung to the body and the freedom of movement it allowed, was an offspring of the late 19th-century dress-reform and Arts-and-Crafts movements. Many of the women who wore these dresses were also pioneers—Isadora Duncan and Lillian Gish and Martha Graham, to name a few.

As Fortuny's gowns became more and more fashionable and influential (their heyday was the 1920s), he financed a fabric factory on the island of the Giudecca to experiment with less expensive materials for the decorative trade. His interest in Venetian glass was reflected in the use of Murano beads to weight the gossamer dresses. He marketed his Delphos dress in suave hatboxes with instructions about how to store them twisted into a ball, and found the rich and socially prominent even ordering them in white to wear as wedding dresses. The concept of the Fortuny style and its enchanted aura became proverbial; rich references to Fortuny clothing in Proust, especially in *The Captive*, to form a leitmotiv.

With changing times, the setbacks of Depression and war, the gowns have remained a motif in the world of fashion as well. Elsie McNeill (later Countess Gozzi), an enterprising American, offered her business acumen to Fortuny and has kept his name and craft alive. Original Fortunys bring high prices at the auction houses and they have been collected or worn by the likes of Peggy Guggenheim, Julie Christie and Tina Chow, whose glamorous photographs share the pages with more vintage images.

Fortuny was not a couturier in the traditional sense, he was a timeless—and atemporal—designer. His creations are collectibles because they are the legacy of an artist who considered them his "paintings," and because the realm of what is accepted as art is being expanded in generous and significant directions. A major retrospective of Fortuny's work, organized at the Textile Museum in Lyon, France, and encompassing all aspects of his life and work, will open at the Fashion Institute of Technology in New York on April 14 and later go to the Art Institute of Chicago. This fine book by Guillermo de Osma is good advance notice.

—Celia Betsky
Associate editor of *Portfolio* magazine

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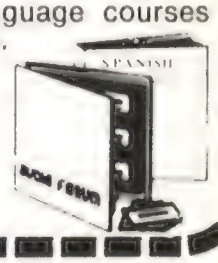

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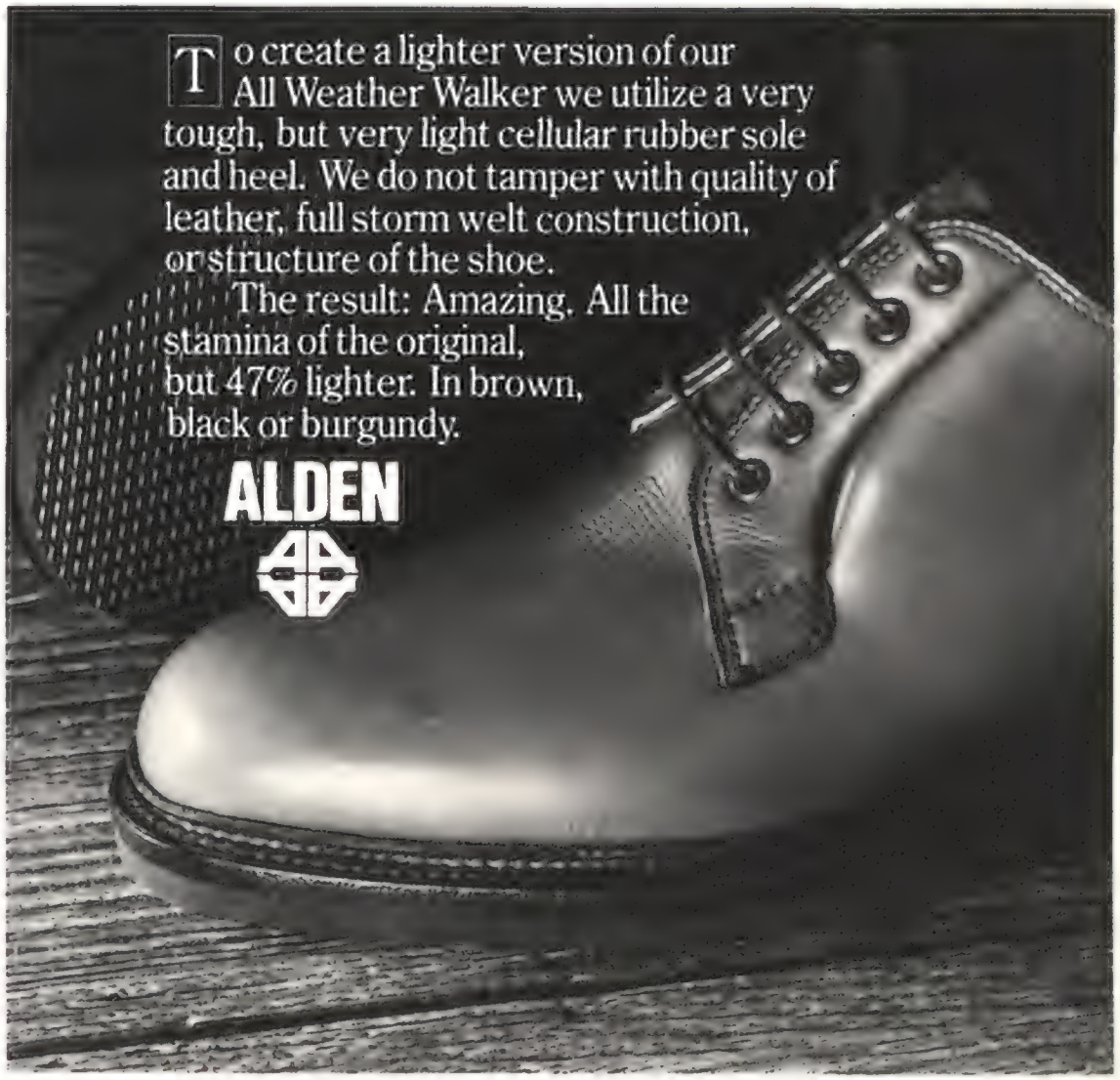
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The Find of a Lifetime: Sir Arthur Evans and the Discovery of Knossos
By Sylvia L. Horwitz
(Viking, $14.95)

Arthur John Evans had what can only be described as "the knack." Again and again, he came up with answers to questions about the ancient history of Crete, Knossos and the Minoans. The surprising fact is that Sir Arthur gave us these answers about a civilization that no one else had dared to speculate about. The Minoans had been officially lost for some 3,000 years. Of course, it is true that his solutions bordered on a kind of naive divination. But it is now clear that this was *sortilège* from a man clearly in touch with the Mediterranean past and its way of life.

The question is, How did Evans turn out like that? What made him tick? In this book, Sylvia L. Horwitz goes a long way toward answers to those questions with a close look at the man, his family and training, and his sense of the past.

Evans was born in 1851. As a young man, he established a reputation as a traveler, a supporter of Slavic and Serbian causes, and a journalist. From his father, John, he inherited a solid interest in the past. The elder Evans, the wealthy owner of a string of paper mills, was one of the first scholars seriously working in European prehistory.

Young Arthur's work in Greek antiquities led him to the post of director of Oxford's Ashmolean Museum. It was based largely on his interest in ring and cylinder seals, especially of the curious, so-called milkstones of the Aegean, used as amulets by modern peasants to insure an adequate supply of milk for their babies. He traced a great many of such cylinder seals to the island of Crete. There, on March 23, 1900, he began a dig that would illuminate a major legend of Western Civilization.

The legend is that of King Minos, whose famed Minotaur terrorized the entire Mediterranean and whose architect Daedalus built a fabled city and intricate labyrinth in which the beast-bull could feast on its sacrificial victims. Everything went well until, according to the tale, the young Athenian prince, Theseus, slew the bull, used a ball of twine to escape from the labyrinth, and eloped with the king's daughter Ariadne. This treacherous tale involving Ariadne and Theseus, Daeda-

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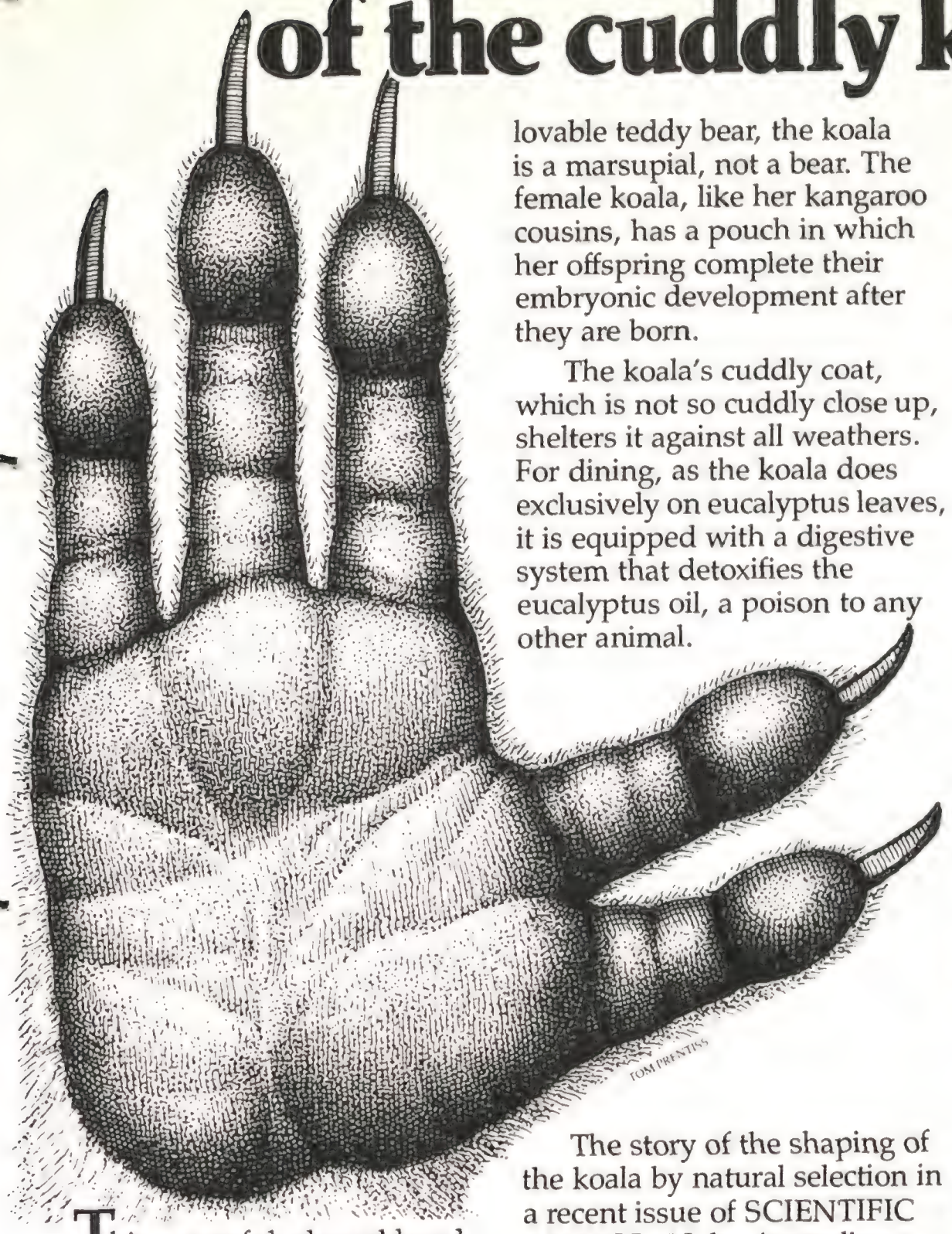
Is this the hand of the cuddly koala?



This powerful, clawed hand does indeed belong to the koala. It testifies to the rigorous adaptation of the animal to its tree-top habitat.

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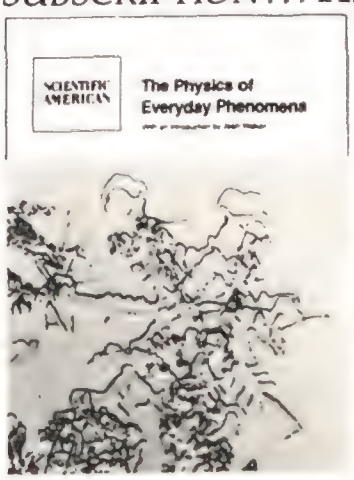

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lus and Icarus, and even Theseus' father, Aegeus (for whom the Aegean Sea is named) is familiar to us all through Homer, Ovid and Chaucer, among countless others.

And in their capable hands it might have stayed, had it not been for Evans. At the tell (or mound) of Knossos, he found not just a labyrinth, but a labyrinthine palace, containing perhaps 1,400 rooms. This advanced civilization lived in a luminous city of multitiered houses, with fountains, plazas, plumbing and the highest of decorative arts, featuring twin motifs—octopuses and lithe acrobats who perform impossible feats over the horns of powerful bulls. Moreover, this was a civilization so confident in its navy it had no need of walls around its towns. Its greatest enemies were earthquakes, which utterly destroyed Knossos at least three times: in 1700, in 1580, and again in 1400 B.C., according to Evans.

The Ashmolean Museum

Sir Arthur always wore collar and tie, carried stick he called "Prodger."

The downward-tapering columns featured in Minoan architecture—possibly the single-most familiar motif from ancient Crete—were functionally sound. Since they were probably unseasoned tree trunks, they were placed upside down to discourage sprouting. Likewise, their wide tops gave added overhang to keep the bases dry, and thus further protected the posts from rot.

Such were the countless finds from over a quarter century of excavation at Knossos, all presided over—and in large part, financed—by the master himself. No detail was too small for this keen-eyed observer, a man who worked actively in archaeology until he was 90 (he died in 1941), always keeping the nail on the little finger of his right hand a bit longer —the better to scrape encrusted dirt off tiny artifacts. Although by the age of 88 he no longer made annual trips to Crete, he was busy mapping a Roman road he identified with the *Swan-rade* of *Beowulf*.

Like any successful man, the elderly Evans attracted the circling vultures and hyenas, the whiff of blood in their nostrils. Above all, they objected to his insistence on reconstruction at Knossos ("a movie city," one called it) rather than mere unearthing. Fine. Except that much of the palace was carved out of gypsum rock and would have melted away like a bar of soap after a few seasons exposed to the elements. And something had to be done to prevent the multiple levels from crumbling as the digging progressed. They also objected to his unscientific, rather intuitive way of doing business at a dig. When he needed a well, he chose a spot that, on digging, revealed a long-hidden but still-good Minoan well. He was uncannily right. But mainly they objected to his persistence in regarding Knossos as the political hub of the known world, and mainland Mycenae as a mere provincial excursion.

In the end, Evans was wrong about precious few of his conjectures. The puzzling Linear B script, so overwhelmingly associated with Evans' finds at Knossos, turned out to be a form of archaic Greek rather than a highly articulated *Scripta Minoa*, as he preferred to call it. And a series of political defeats rather than an earthquake alone may have finally ended the power of the Minoans some time between 1400 and 1200 B.C.

But what he gave us far outweighs these quibbles. He uncovered a major Mediterranean civilization, and gave the language a new word, "Minoan." In the process, he insured his own place in the pantheon of the archaeologists. He's there to this day, with Winckelmann and Schliemann just ahead, and Champollion, Petrie and Carter following closely.

Michael Olmert
Annapolis writer and critic

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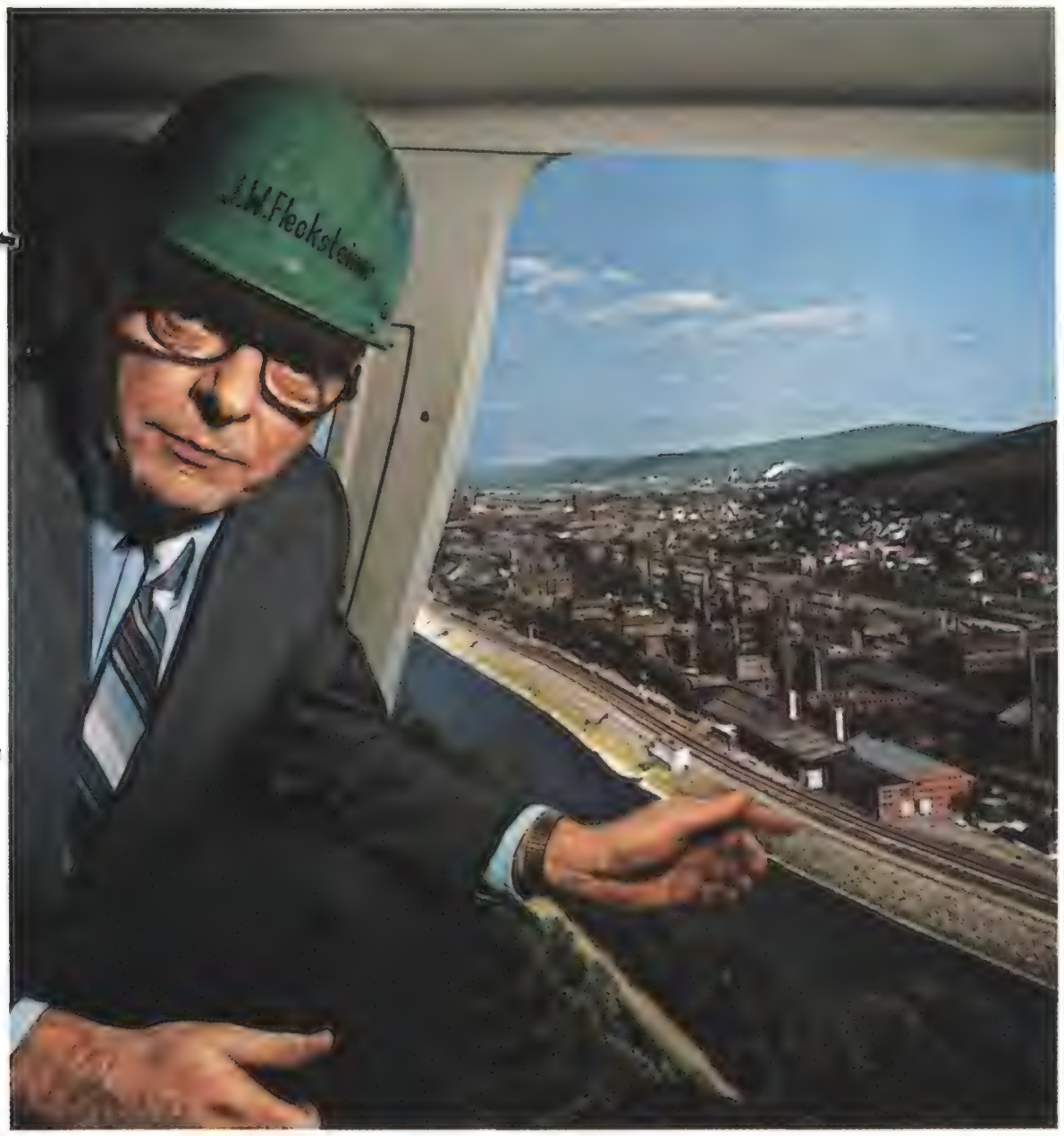

John Flecksteiner, Superintendent of the Environmental Control Division, went up in a helicopter with a photographer to get the "how it looks now" photo of our Bethlehem, Pa., steel plant. John is proud of the part he's played in helping to make this plant, which is located right in the City of Bethlehem, a "good neighbor."

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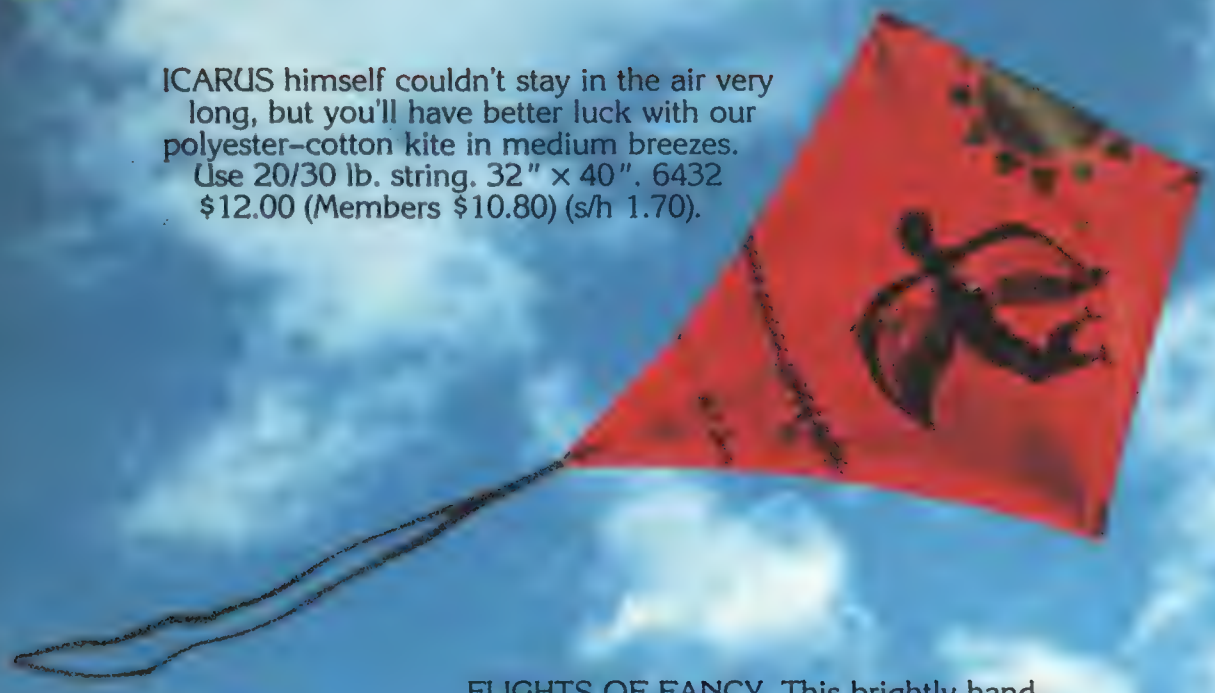

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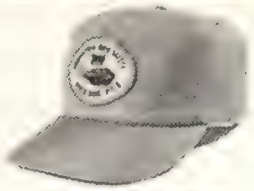
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Additional reading

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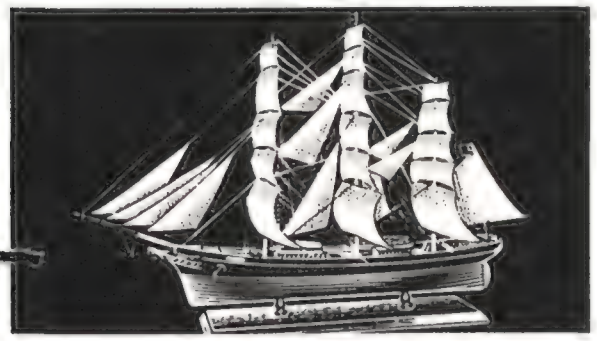

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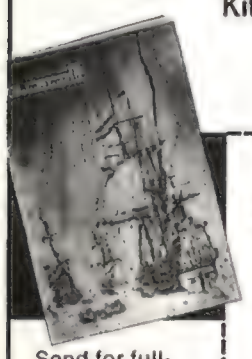

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Smithsonian highlights

Furniture is in at the Cooper-Hewitt, with two good shows of the plush and the practical. *Innovative Furniture of America* focuses on technology of the 19th and 20th centuries—the bending and laminating of wood, mechanical gadgetry and new ways of providing comfort and portability. Organized by the Smithsonian Institution Traveling Exhibition Service (SITES), the 50 pieces start a two-year national tour in May.

One floor up, *John Henry Belter and the Rococo Revival* features Victorian works by this famous mid-19th-century cabinetmaker and his contemporaries. Prominent are plush seats and carved birds and flowers, characteristic of a period once thought vulgarly ornate but now valued for its fine craftsmanship.

Special March events

Cooper-Hewitt Museum (New York)
Innovative Furniture of America (March 10-May 10)—Furniture technology (right).
John Henry Belter and the Rococo Revival (March 10-May 24)—Victorian furniture and accessories.
Matchsafes (through April 12)—Some are made from metals, shells and nuts.

National Air and Space Museum
Space Science Comes of Age (March 23-24)—Free symposium with experts.
What Has Voyager Told Us About Saturn? (March 18, 7:30 P.M.)—Illustrated talk.
William Herschel: The Ultimate Amateur (March 7, 9 A.M.)—Monthly sky lecture, Albert Einstein Spacearium.
Flying for the Movies (March 19, 7:30 P.M.)—Illustrated lecture by pilots.
Free Films—"The Day the Earth Stood Still," March 13; "2001: A Space Odyssey," March 27; both 7:30 P.M.

Anacostia Neighborhood Museum
Anna J. Cooper: A Voice from the South—Surveys the life of this educator, author and developer of social programs.

Museum of African Art
Ancient and Contemporary Art of Egypt (March 17 through May 15)—p. 176.
African Costumes and Jewelry (through May 15)—Samples from nine countries.

Hirshhorn Museum & Sculpture Garden
Robert Natkin: A Lithographic Suite (March 19-June 14)—Two groups of lithographs, the first as originally printed, the second reworked with acrylic.
Mahmoud Moukhtar (March 16-April 30)—Stone, bronze, copper sculptures by this Egyptian artist.
Directions 1981 (through May 3)—Fascinating group show features 16 artists.

Freer Gallery of Art
Ancient Egyptian Art (March 16-May 31)—Colorful glass from 15th-10th centuries B.C. complements the *Egypt Today* program (p. 176).

National Portrait Gallery
Photographs (through April 19)—Selections from the permanent collection.
How Fleeting is Fame (through August 23)—Portraits of ex-celebrities.

National Museum of American History
Legacies of Egypt (March 16-April 16)—Rare books illustrate impact on the West of Napoleon's trip to Egypt.
Free Film Series (Wednesdays and Thursdays, 12:30 P.M.).

National Museum of American Art
Aspects of Collecting the Modern: 20th-Century Painting and Sculpture in NMAA (through May 5).

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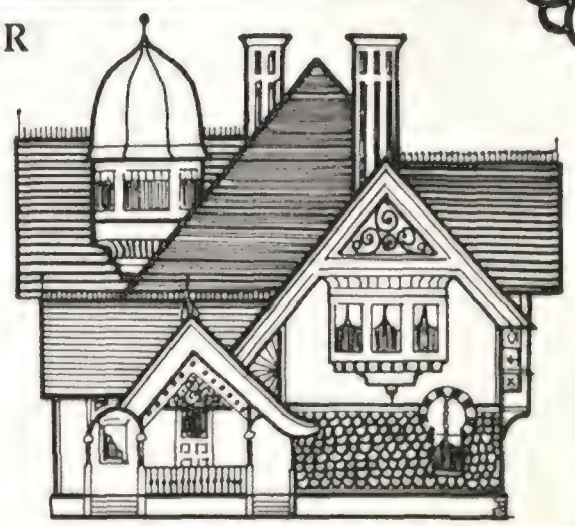

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Renwick Gallery
The Animal Image: Contemporary Objects and the Beast (March 13-August 30)—Sculptural and functional works by Americans using animal motifs (p. 174).
Egypt Today: Embroidered Pictures from Akhmim (March 15 through August)—Modern tapestries.
American Porcelain: New Expressions in an Ancient Art (through August 16)—SMITHSONIAN, February 1981.

Museum of Natural History
Free Films—"Lyell on Aetna" and "The Appalachians," March 6; "Annapurna," March 13; at noon.
Noontime Lectures—"Search for the Missing Links in the Insect World" by Don R. Davis, March 20; "Diplomats in Buckskins" by Herman Viola, March 27.

Membership benefits

Planning a Smithsonian visit? A previsit packet, filled with information for Associates coming to Washington, is free for the asking; send postcard or phone Associates Reception Center, Smithsonian Institution, Washington, D.C. 20560 (202-357-2700 or, for hearing impaired, TDD 202-357-1729). Allow two weeks for receipt.

Your benefits at the Smithsonian include dining in the members' restaurant, The Court, and relaxing in the Associates Lounge; slide/lecture orientation to 13 museums; discounts in most museum shops. Complete details are available at the Associates Reception Desk in the castle, 10 A.M.-4 P.M.

Smithsonian events

For tickets to March Resident Associate Program events, call 357-3030:
Come Fly a Kite! (March 28, 10 A.M., West side of Washington Monument)—Competition of homemade kites; free lecture and workshops, March 14, 22.
The Medici in Florence and Rome (March 21)—All-day seminar.
Early Irish Art, 1800 B.C.-A.D.*1500* (March 14)—All-day seminar.
Birds: A Global View (March 28)—All-day seminar on birds of other continents.
Memoirs of a Movie Palace (March 26, 8 P.M.)—Screening of this new film.
Gilbert Stuart and the Washington Portraits (March 23, 8 P.M.)—Lecture.
Chinese Jade (March 10, 8 P.M.)—Lecture.

For tickets to Performing Arts events, call 357-1500:
Performers Ensemble (March 5-29)—Join "Journeys through Imaginary Landscapes," Wednesdays-Sundays, A&I Discovery Theater.

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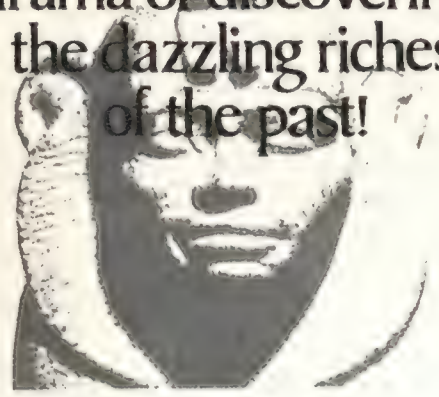

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Jackie McLean (March 1, 6 P.M.)—Jazz saxophonist.
Philippine Dance Company (March 15, 8 P.M.)—Reynaldo Alejandro and his troupe; free demonstration, Baird Auditorium, 3 P.M.
The Revue in America (March 19-22)—Historical extravaganza.
Buck White and the Down Home Folks (March 29, 8 P.M.)—Hot licks and harmonies, country music style.

Musical Weekend in May

Dinner in the Smithsonian castle, a performance of *Love's Labour's Lost* at the Folger Shakespeare Theatre and a champagne reception will open the Tenth Annual Musical Weekend, May 1-3. Sponsored by the Division of Musical Instruments and steering committee of the Friends of Music, the program includes an introduction to the Smithsonian's collection of musical instruments, a tour of Dumbarton Oaks, tea at the Mexican Embassy and dinner at the Museum of American Art followed by a concert of Handel, Mozart and Stamitz by the Smithsonian Chamber Players. Sunday-morning breakfast will be in the birdhouse of the National Zoo.

Hotel accommodations, meals and tickets are included. For information, write: Musical Weekend, Room 4124, National Museum of American History, Washington, D.C. 20560.

Dan White's *Supersonic Chicken*, at the Renwick, comes complete with egg.

Regional Events

Extraterrestrial intelligence, vitamin technology and landscaping are only a few of the topics scheduled for the Regional Events Program in Little Rock, March 24-31. The Denver program, April 1-13, will include folk music, nature photography and parent-child fossil identification workshops. Associates in these cities will receive invitations about a month in advance. For information, write: Regional Events, 1208 A&I, Smithsonian, Washington, D.C. 20560.

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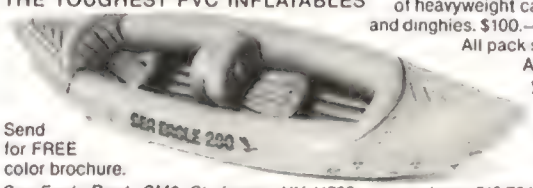

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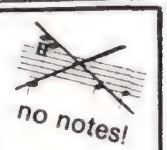

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Radio Smithsonian, a weekly half-hour visit to exhibits and performing arts programs, is heard nationwide on some 65 stations. Smithsonian Galaxy, a series of twice-weekly, 2¼-minute features, is broadcast by 200 stations. To find out which station in your area carries either program, write: Office of Telecommunications, A&I Building, Room 2472, Smithsonian Institution, Washington, D.C. 20560.

Smithsonian Institution Traveling Exhibition Service

SITES circulates exhibitions to hundreds of cities outside Washington. To sponsor a show in your community, write to Eileen Harakal, SITES, Smithsonian Institution, Washington, D.C. 20560. Here are some March exhibits:

San Diego (March 21-April 19)—*The Farallon Islands: A Conservation Success Story,* Natural History Museum.

Boulder, Colorado (March 14-April 12)—*Jupiter and its Moons,* IBM Corporation.

St. Petersburg, Florida (March 14-April 26)—*Paintings of the Figure from the National Academy of Design,* Museum of Fine Arts.

Tempe, Arizona (March 28-April 26)—*Cut on Wood,* Arizona State University Art Gallery.

Tequesta, Florida (March 28-April 26)—*Children's Art from the People's Republic of China,* Lighthouse Gallery.

Urbana, Illinois (March 7-April 5)—*Buildings Reborn,* University of Illinois.

Manchester, New Hampshire (March 21-April 19)—*Victorian Architecture,* Currier Gallery of Art.

Ithaca, New York (March 21-April 19)—*Visionary Drawings: Architecture and Planning,* Herbert F. Johnson Museum.

Lubbock (March 7-April 5)—*The Year of the Hopi,* Museum of Texas Tech.

Madison, Wisconsin (March 7-April 5)—*Jacob Jordaens,* Elvehjem Museum.

Winston-Salem (March 21-April 19)—*Aquaculture: A World View of Seafarming,* Nature Science Center.

Ambler, Pennsylvania (March 21-April 19)—*America's First Ladies,* Temple University.

San Antonio (March 7-April 11)—*Collages: Selections from the HM&SG,* Marion Koogler McNay Art Institute.

Bellevue, Washington (March 7-April 19)—*The First 4,000 Years: The Ratner Collection of Judaean Antiquities,* Bellevue Art Museum.

Seattle (March 14-June 7)—*What If You Couldn't . . . ? An Exhibition About Special Needs,* Pacific Science Center.

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The Rattlesnake

Issued in cooperation with The Buffalo Bill Historical Center, Cody, Wyoming, in a numbered edition of 1,000, the replica is hand-finished, cast in bronze by the lost wax process. It is approximately 17½ inches high with American Walnut base, three-fourths the size of the original.

Museum Collections Announces the Fourth in a Series of Museum Quality Replicas of Frederic Remington's Incomparable Bronzes

The Rattlesnake was completed in 1905, at the height of Remington's enthusiasm for sculpture, and was in his own opinion his most successful bronze, his most fluent, dynamic and graceful rendering of the horse in motion.

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This remarkable bronze has all the impact of modern stop-action, high speed photography. The mustang and its rider are caught in a moment of terror, the horse rearing in instinctive reaction to the rattler, his rider responding instantly to the sudden, violent movement of his mustang, grasping his hat and gripping his saddle.

Like our three previous bronzes in the series — *The Bronco Buster, The Outlaw* and *The Cheyenne — The Rattlesnake* is faithful to the Remington original in every detail.

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The model for the edition has been approved by the trustees of the Buffalo Bill Historical Center. As each bronze is cast it is carefully inspected by our own experts at Museum Collections Inc. to assure that it meets our exacting standards of quality.

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At a time when bronzes of lesser quality are selling in prices in the thousands, this edition is offered to collectors at $1875. We urge you to act promptly to reserve your bronze now — there is a waiting list for each of the three limited edition Remington bronzes that have been issued, and it is expected that the demand for this fine replica will also exceed the number of bronzes available.

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Egypt today and yesterday

Egypt Today includes Effat Nagui's work, on exhibit in Los Angeles.

Schist figure is among antiquities on loan from Cairo museum.

To many, Egypt means politics and pyramids. But opening this month is a six-week symposium that gives us a look at the contemporary side of that ancient culture, its people and its art.

Running concurrently in Washington, D.C., Houston and Los Angeles, *Egypt Today* includes art, films, concerts and panel discussions. Madame Jihan El-Sadat, wife of Egypt's president, will present the keynote address in Washington on March 16. (The Smithsonian Resident Associate Program is sponsoring *Egypt Today* along with Middle East Institute and Meridian House International; coordinators are the Craft and Folk Art Museum in Los Angeles and Natural Science Museum in Houston. Funds come from the National Endowments for the Arts and the Humanities, the International Communication Agency and donors.)

Among the works coming over from Egypt are paintings, jewelry, tapestries and sculpture (right). Six Smithsonian museums are participating: The Hirshhorn has 15 works by Mahmoud Moukhtar (1891-1934), considered the first sculptor of modern Egypt. The Museum of African Art (MAA) focuses on people—their costumes, ornaments and customs. Tapestries hang at the Renwick and rare books are displayed at the Museum of American History. Shown in the Smithsonian castle are 50 samples of yesterday's Egypt, antiquities on loan from the Egyptian Museum in Cairo—bronze heads, alabaster jars, a serpentine sphinx. And added to the Freer's own colorful glass vessels (15th-10th centuries B.C.) is its famous sculpture of a king with the White Crown of Upper Egypt, some 4,500 years old.

But it's today's Egypt that the program is about. President Sadat, expressing support, wrote: "While we are proud of our glorious past, we are confident that Egypt of the 20th century has much of value. . . . I invite Americans to share our prospects through the program."

—Carol Simons

HM&SG shows Mahmoud Moukhtar's *The Khamsin Wind.*

Costume exhibit at MAA includes 3½-inch ornament.

Ramzi Moustafa's painted metal is at Phillips Collection.

Kohl flask at Freer is more than 3,000 years old.

Isn't it time to give a real tax break to savers?

On the average, Britons save 13% of their disposable income. West Germans save 15%. Japanese, 26%. But Americans save only 4.5%!

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Isn't it time Congress gave savers a real tax incentive? We think the annual tax-free limit on savings interest should be raised to $1,000 for individuals and $2,000 for joint tax returns.

This would encourage more savings, which would help stabilize the economy and bring inflation under control.

What do you think? Please fill out the ballot, and let us know. If the ballot has already been removed from this page, you can still vote at your nearby Savings and Loan Association.

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BALLOT

Question: Should the first $1,000-$2,000* of interest on your savings be tax-free?

*$1,000 for individuals, $2,000 for joint tax returns.

☐ Yes ☐ No

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Domestic Study Tours

These tours offer specialized guidance and expertise generally unavailable to persons traveling on their own:

Smithsonian Arts Weekend—March 6-8: Examine diverse art collections (including *The Search for Alexander*) with staff.

Winter in the Tetons—March 31-April 8: Cross-country ski trip to study the delicate balance of nature in this majestic national park.

New York—April 2-5 or April 9-12: Exciting weekend features new American wing at Metropolitan Museum of Art.

Jefferson's Virginia—April 8-13: Study American architecture in Williamsburg, Charlottesville and Richmond.

Mississippi—April 27-May 3: Relive the history of antebellum South with visits to plantations in Vicksburg and Natchez.

Big Bend—May 2-10: Hike the spectacular canyon trails in this southwest Texas park.

Philadelphia—May 20-24: Explore this historic city through museums, walking tours and visits to homes.

Southwest Pueblos—May 22-29: Trace the development of Indian and Spanish cultures in New Mexico.

Illinois Archaeology—May 23-30: Dig includes instruction, lab work and field trips.

Bryce, Zion and the Grand Canyon—June 3-11: Study geology and natural history of these dramatic national parks.

Yosemite—June 6-14: Explore the park during its most spectacular season.

San Francisco—June 14-20: An in-depth view of the social and architectural history of the city.

Family Sampler—June 26-28: Special program for parents and children (ages 7-14) to enjoy behind-the-scenes activities at the Smithsonian Institution.

Glacier National Park—July 4-13: Hike the scenic trails in Montana and enjoy the comforts of a lodge at night.

Alaska—July 5-14: Enjoy the wild flowers and birds at a wilderness retreat in Mt. McKinley National Park.

Desolation and Gray Canyons—July 22-August 1, September 30-October 11, or October 12-23: Whitewater trip for the adventurous on Utah's Green River.

Salmon River—July 28-August 4: Rafting trip on Idaho's "River of No Return."

Grand Canyon—August 14-24 or August 22-September 1: Exciting raft trip on the Colorado River.

The North Woods—August 20-28: Hiking, canoeing, and Voyageur history in northern Minnesota.

Washington "Anytime" Weekend: Choose any weekend to visit your choice of Smithsonian museums, spend two nights at Loew's L'Enfant Plaza Hotel or Hyatt Regency Washington, each close to the Mall, and see other sights in the city by Tourmobile. Reservations and payments at least ten days prior to arrival.

Foreign Study Tours

These tours range in size from small group experiences to charter adventures and vary in price from low cost to deluxe, depending on the type of travel, destination visited and length of trip:

Ecuador and the Galápagos Islands—March 22-April 2: Visit Quito, then travel by train to Guayaquil to board the *Buccaneer* for a seven-day study voyage.

Mediterranean Spring Tour—April 25-May 6: Sail on today's *Argonaut*. More than Jason's mythical search, a real-life cultural quest: to Athens, through the Corinth Canal, to Olympia, Malta, five stops in Sicily, around Stromboli, on to Pompeii, Paestum, Pisa and Florence, finally to Nice. Your pilots, not Jason, but talented lecturers in the Smithsonian tradition.

Springtime in Greece—May 3-19: Athens and renowned sites of ancient civilization amidst a paradise of wild flowers.

Portugal—May 5-19 or October 6-20: Four days in Lisbon; choice of travel to Alto Alentejo with Evora and fortified hill towns of Estremoz; or old Lusitania.

London—May 10-24: Museums, seminars, walking tours and theater; choice of excursion includes Yorkshire.

Odyssey of Flight—May 24-June 8: Paris Air Show, the Musée de l'Air, Britain's Shuttleworth Collection and more, with Air and Space Museum curators.

Malaysia, Borneo and Singapore—May 25-June 12: Kuala Lumpur, Penang and Malacca—plus choice of travel to the seldom-visited east coast, the remote National Park, or the jungles of Borneo.

Wild Highlands of Scotland—May 28-June 13: In cooperation with Aigas Field Centre, study natural history and wildlife.

Alpine Countryside—June 6-21 or September 12-27: Stay in an Austrian mountain village and study this historic area.

Waterways of France—June 28-July 9: Aboard the MTS *Argonaut*, cruise the Loire, Seine and Gironde rivers, from Paris to Southampton; visit cities, vineyards, Guernsey and Sark.

Wales—July 4-17: Savor dramatic landscapes; visit archaeological sites, fishing villages, mines, manor houses and castles; attend the International Music Festival.

The Lakes of Finland—July 10-26: Celebrate summer with an extravaganza of cultural happenings, including the Savonlinna Opera Festival.

An Alpine Walk—August 2-16 or August 16-30: Hike through the Swiss Alps to study peaks, waterfalls and flora.

Oxford/Smithsonian Seminar—September 11-26: Aspects of European Art and Literary Oxford are among in-depth courses taught by Oxford faculty. Enjoy day trips and special ambience of the town while living in Worcester College.

The Ancient World of Peru—September 20-October 6: Cruise along the coast visiting Peru's major archaeological sites; end with a stay in Cuzco and a visit to Machu Picchu.

Salzburg Seminar—October 3-17: Study opera or the Baroque era in the lakeside setting of Schloss Leopoldskron; includes German lessons, lectures on Austria, visits to Salzburg's splendid monuments and evening events.

People's Republic of China: 13 tours with five different itineraries.

Write National Associates, A&I 1278, Smithsonian Institution, Washington, D.C. 20560 for specific tour/seminar brochures or call (202)

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Selected Studies Seminars

Now is the time to enjoy the latest popular programs at the Smithsonian which combine excellent speakers and small, specially arranged behind-the-scenes tours. Choose from the following schedule:

American Painting in the 19th Century—March 22-27: Bill Kloss explores the superb achievements of masters such as Copley, Cole, Church, Homer, Ryder and Eakins. Includes numerous tours of the abundant artistic treasures at the Capitol, National Gallery of Art, National Museum of American Art, National Portrait Gallery, Phillips Collection, Renwick Gallery and Corcoran Gallery of Art. (Repeat due to popular demand)

American Antique Furniture—March 22-27: Connoisseurship of masterpieces, 1650-1840. Includes color slides of great collections, detection of fakes, care and repair of antiques and tours of the elegant Diplomatic Reception Rooms at the Department of State and the H. F. du Pont Winterthur Museum. (Repeat due to popular demand)

World War II Aviation—March 29-April 3: The outstanding aeronautical staff of the National Air and Space Museum and guest experts offer new insights into how the major air forces of the world came into being, and how quantum jumps in aviation production and performance were achieved. Includes tours to see many of the only surviving planes of World War II. (Repeat due to popular demand)

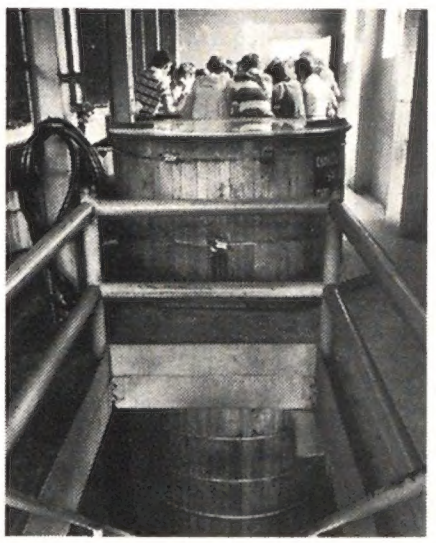
Naval History—April 26-May 1: Nationally famous authors, including Edward L. Beach, (*Run Silent, Run Deep*), E. B. Potter (*Nimitz*), Norman Polmar (*Atomic Submarines*), and Edwin Simmons (*The United States Marines: 1795-1975),* contribute their unique expertise along with tours of the rich and varied museums and naval facilities in Washington, D.C., and nearby Annapolis.

Historic Horticulture—May 3-8: Celebrate spring in the lovely 18th-20th century gardens of Mount Vernon, the National Arboretum, Dumbarton Oaks and the du Pont estates of Longwood and Winterthur in Delaware. Learn how the principles of design and maintenance can be applied to your private garden.

357-2477 (tours) or (202) 357-2475 (seminars)

If you'd like to know more about charcoal mellowing, drop us a line here at the distillery.

IT'S EASIER TO UNDERSTAND how we charcoal mellow Jack Daniel's, after you've peered inside a charcoal mellowing vat.



We can show you how tiny drops of Jack Daniel's trickle slowly through room-high vats of tightly tamped charcoal. And we can tell you that nothing (not even aging) gives our whiskey more smoothness. After you've looked inside a charcoal vat, you'll always remember how we use them. After a sip of Jack Daniel's, we believe, you'll be glad we always will.

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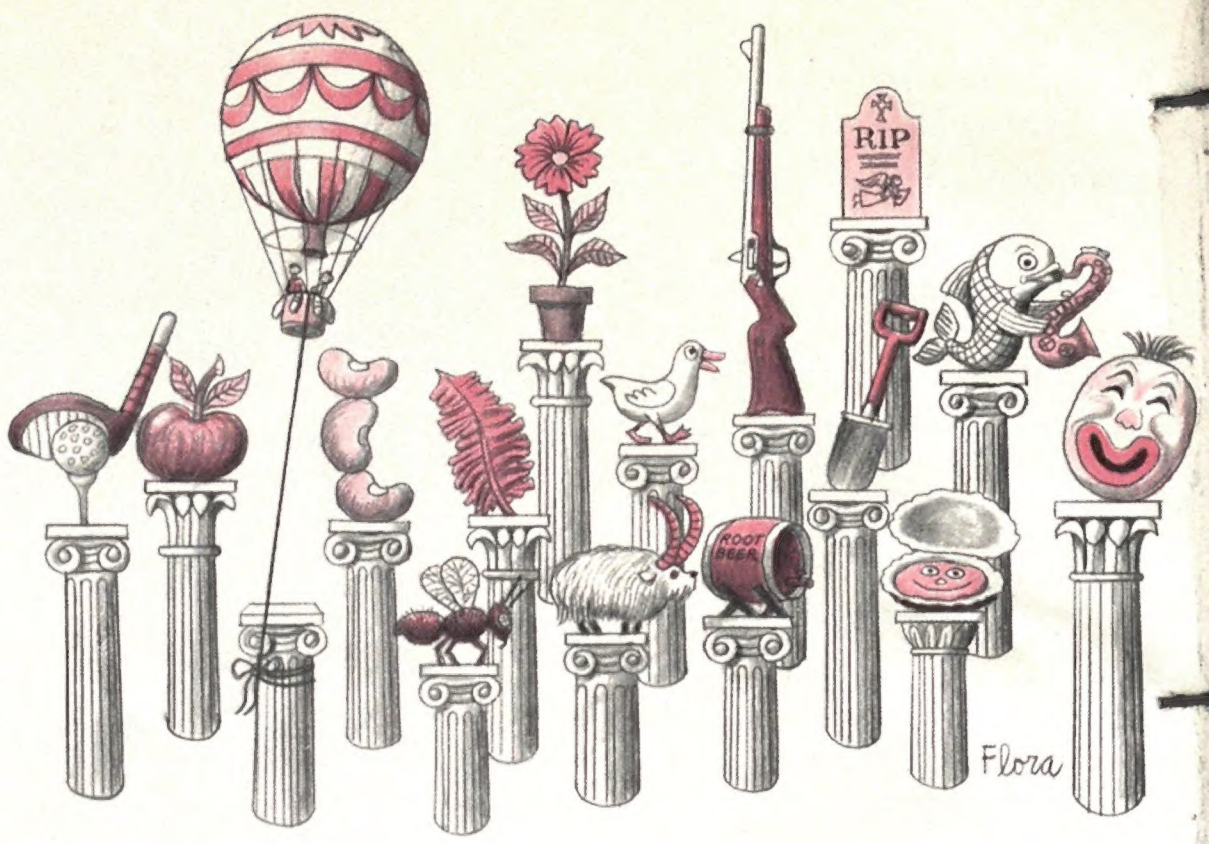
Lem Motlow, Prop., Inc., Route 1, Lynchburg (Pop. 361), Tennessee 37352
Placed in the National Register of Historic Places by the United States Government.

By Harold Faber

A capital idea: every town a world capital!



Reading the *New York Times* a while back, I noticed a dispatch from Gabrovo, Bulgaria, reporting that residents of that tiny town in the Balkan Mountains referred to it as "the humor capital of the world." Shortly afterward I read an Associated Press report from Crisfield, Maryland, calling that town "the oyster capital of the world." A few days later an article from Salley, South Carolina, described it as "the chitlin capital of the world." In a short time, I also found references in the papers to Barre, Vermont, as (sob) "the tombstone capital of the world" and to Hong Kong as (wow) "the porno capital of the world." Obviously a new trend in journalistic geographic nomenclature was flowering, if that's what trends do.

And so I began a collection of self-proclaimed world capitals. As I was driving along Interstate 10 north of the Mississippi Gulf Coast, my daughter saw a billboard calling the area "the root beer capital of the world." I visited Westfield, New York, which boasts that it is "the grape juice capital of the world." In Calvin Trillin's *Alice, Let's Eat,* he describes Owensboro, Kentucky, as "the barbecued-mutton capital of the world." I remembered an article in *The New Yorker* by Berton Roueché that crowned three world capitals in Texas—Rocksprings, "the angora goat capital of the world;" Uvalde, "the honey capital of the world;" and Crystal City, "the spinach capital."

But soon my collection reflected conflicting claims by competing cities that I declined to resolve. Who could judge whether Winchester, Virginia, or Wenatchee, Washington, was entitled to the honor of being "the apple capital of the world," as each place asserted? Or whether Palm Springs, California, or Myrtle Beach, South Carolina, was "the golf capital of the world"? Or whether Webster, South Dakota, or Dixon, Illinois, was recognized as "the petunia capital of the world"?

Complicating this informal research (besides wondering who cared) was the finding that some cities claimed double world capitalization. For example Stuttgart, Arkansas, said it was "the rice and duck capital"; Moscow, Idaho, "the dry pea and lentil capital of the world"; Parkersburg, West Virginia, "the shovel capital of the world" and "the marble capital of the world"; and Warsaw, Missouri, "the spoonbill capital of the world" and "the gunstock capital."

At one time Reno, Nevada, was "the divorce capital of the world," but now, with divorce easier everywhere, that is empty boasting. Its sister city, Las Vegas, perhaps may be "the gambling capital of the world," but gambling, like divorce, is so widespread that the title is open to question. Despite competition and changing times, however, Hollywood retains its allure as "the movie capital of the world" and Paris as "the fashion capital."

New York City stands out. At various times recently, it has been called the world capital of art, bagels and lox, communications, dance, herring, jazz, publishing and the theater. (Not to mention violence and trash, so I won't.) Even some of its streets are world capitals, such as Wall Street, "the financial capital of the world" and Madison Avenue, "the advertising capital of the world."

And now, if you have been wondering how a hilltop village in Bulgaria, in Eastern Europe, came to be known as "the humor capital of the world," let me tell you why, as related by John Darnton in the *Times.* He wrote that Gabrovo's fame rested on the image of thrifty peasants who, like Jack Benny, have turned stinginess into an asset—in this case, making their village a tourist attraction, with a biannual humor festival.

The typical Gabrovian, according to the stories told by villagers themselves, is someone who stops his clock at night to save wear on the gears. He puts green glasses on his horses to make them think the wood shavings they are fed are grass. For economy, he boasts that the villagers invented narrow trousers, short skirts, gliding, watered wine and matchboxes with only one side for striking. He cuts off his cat's tail so that he can close the door faster in winter to save heat when he puts the cat out. And he dances the hora, a national dance, in felt slippers—the better to hear the music from a band in a neighboring village.

I could go on, but perhaps it is appropriate to end with the note that Albuquerque, New Mexico, is "the hot air (balloon) capital of the world."

Why Old Grand-Dad Special Selection is the most expensive Bourbon in the world.

114 Barrel Proof: Like our other fine Old Grand-Dad Bourbon, Old Grand-Dad Special Selection is distilled, then aged undisturbed in small quantities in a careful process that's remained unchanged for almost 100 years. So each barrel meets the exacting taste standards that all Old Grand-Dad is famous for.

But what makes Special Selection so special is it's bottled straight from the barrel, at 114 barrel proof. The same way Bourbon used to be bottled.

Taste: As you savor a snifter of Old Grand-Dad Special Selection, notice its amber hue, its fragrant bouquet and mellow body. You'll know why we recommend it to people who drink Bourbon for sheer enjoyment.

Tradition: Old Grand-Dad Special Selection is made to be enjoyed the same way Bourbon used to be.

In fact, each bottle is so important, it bears its own lot number. It's expensive, yes. But it's also exceptional. And isn't that what matters to somebody who appreciates fine Bourbon most of all?

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Why more Americans are choosing to own Seville than any single luxury import model...

The figures tell the story. In a time when nearly one out of every four new cars sold in America is an import, Seville outsells its nearest luxury foreign competitor by a wide margin—as you can readily see in the chart on the right.

Seville vs. Leading Luxury Import Models
Sales Per R. L. Polk, Jan.-Oct. 1980

Seville by Cadillac	28,641
Mercedes 240D	8,326
BMW 528i	6,169
Volvo GLE (Sedans and Station Wagons)	9,216
Audi 5000 (Complete "5000" series including Diesel and Turbo)	22,257
Peugeot 505S (All models)	2,774
Saab 900 (Complete "900" series including Turbo)	8,576

What makes Seville the exception . . . its distinctive styling? Yes, to a degree. Ride and roominess are considerations, too. Or maybe the key factor in Seville's success is its advanced technology.

The benefits of front-wheel drive. The first time you sit inside a Seville, you'll notice what seems to be an inordinate amount of legroom. That's one of the benefits of front-wheel drive. Front-wheel drive also gives Seville impressive traction in a wide variety of road conditions. Note: Of the six luxury imports listed in the chart on the left, only Audi and Saab have front-wheel drive.

A unique choice in engines. Seville is available with any one of three power plants: the standard Diesel engine, a gas-powered V6 or the new V8-6-4 engine. No other carmaker offers a comparable selection—foreign or domestic.

Cadillacs are equipped with GM-built engines produced by various divisions. See your Cadillac dealer for details.

Seville is a generation ahead in electronics. Many foreign automakers are just beginning to experiment with their "black boxes." Microprocessors have been a part of Seville for years. The electronic climate control uses one. The electronically tuned stereo radio does also. While the V8-6-4 Fuel Injection system uses a new on-board computer that can handle 300,000 decisions per second.

Advanced technology. Electronic sophistication. With standard features that often cost extra on luxury imports (if they're offered at all) plus distinctive styling, it's no wonder more Americans have chosen to own Seville than any single luxury import model. To buy or lease your Seville, see your Cadillac dealer soon.

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An American Standard for the World.

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